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ABSTRACT

This menu planning guide for school lunches and breakfasts contains: (1) lunch requirements, recommendations, and policies; (2) the basics of menu planning; (3) how to vary portions for various age/grade groups; (4) planning breakfasts; (5) merchandising school lunches and breakfasts; and (6) nutrition education and menu planning; Appendixes include recommended dietary allowances, menu planning worksheet, USDA fact sheet on moderating fat, sugar, and salt, and information materials. (JD)

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Food and Nutrition Service

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Menu Planning Guide for School Food Service

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Introduction

This menu planning guide is to help you in school food service plan and serve acceptable school meals that meet food needs. It is in tune with today's challenges to serve nutritious food, give a good image, provide choices, consider the likes and dislikes of those served, and decrease plate waste. The publication covers the philosophy and principles of good menu planning; Federal requirements, recommendations, and policies; methods of menu planning; and merchandising techniques for promoting good nutrition.

The National School Lunch Act of 1946 established the National School Lunch Program to safeguard the health and well-being of our Nation's children. The program is designed by Congress as a means of (1) providing nutritious, reasonably priced lunches to school children and children in residential child care institutions, (2) contributing to a better understanding of good nutrition, and (3) fostering good food habits. School food service has become a basic part of the nutrition and education program of the Nation's schools. The growing School Breakfast Program has further expanded this role.

School food service is a unique and important market for food. It reflects advances in knowledge of food, nutrition, and food service management and is full of opportunities to try new ideas. It presents an exciting challenge to maintain and improve the quality of school meals.

When planning menus, keep in mind the following general points:

- **The menu is the focal point** of the school lunch and breakfast programs. It is the basis for all activity in these programs from planning to purchasing, to production, to service and cleanup, and to the ultimate satisfaction of students' appetites.

- **The menu is a management tool.** Successful management of the school lunch and breakfast programs starts with menu planning. The quality of the meal and success of the programs depend on the knowledge and skill of the menu planner. The menu planning activity also provides an opportunity for nutrition education and for involving students, parents, and school personnel in the school lunch and breakfast programs.

The menu is a management tool which has a major role in controlling . . .

- compliance with Federal regulations
- nutrient content
- meal acceptability
- food and labor cost
- food purchasing
- food production
- work scheduling
- equipment use and needs
- employee training needs

- **Successful menu planning requires knowledge.** Several areas of knowledge are necessary:
  - the lunch and breakfast programs' purpose and goals, requirements, and recommendations
  - students' food preferences so that the menu can reflect those preferences
  - food costs and the amount of money available
  - what foods are available for the period for which menus are being planned
  - the availability and experience of personnel
  - kitchen layout and capacity of equipment
  - food preparation and work scheduling
  - food merchandising so that the meal will be well accepted by the school-age customer being served

This *Menu Planning Guide for School Food Service* will be periodically reviewed and individual pages or entire sections will be reissued to keep the publication current.

1

Lunch Requirements, Recommendations, and Policies

2 Background of the Meal Patterns and Recommendations
4 Requirements and Recommendations
12 Specific Requirements and Policies by Component

U.S. Department of Agriculture

Chapter 1. LUNCH REQUIREMENTS, RECOMMENDATIONS, AND POLICIES

Background of the Meal Patterns and Recommendations

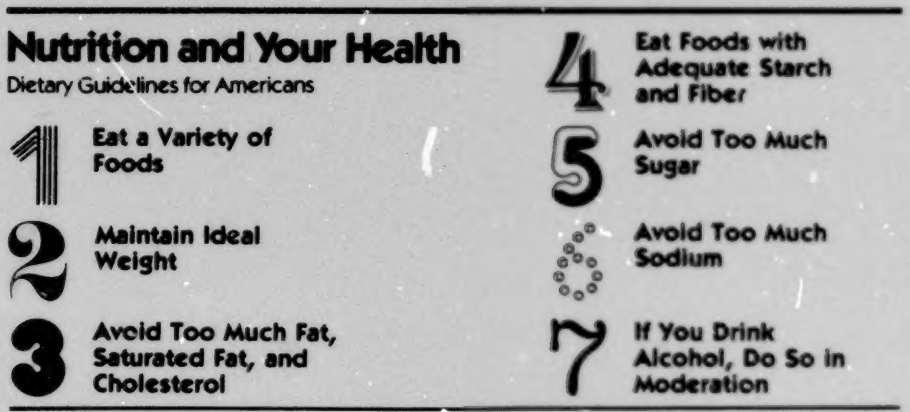
Nutritional Goal

The **nutritional goal** for school lunches is to provide approximately one-third of the Recommended Dietary Allowances (RDA) as specified by the National Research Council/National Academy of Sciences as shown by age categories in appendix I. It is not expected that each lunch each day will provide one-third of the RDA for all nutrients, but that, when averaged over a period of time—in which a wide variety of foods are served—the goal will be met.

In developing the meal requirements, amounts of food energy (calories) and all nutrients for which adequate reliable food composition data are available were considered. Additionally, since the meal requirements allow for a variety of foods, it is assumed that other nutrients for which no RDA have been established or for which inadequate food composition data are available will also be supplied.

Dietary Guidelines

Important considerations used in designing meal requirements and recommendations included the "Dietary Guidelines for Americans," issued in *Nutrition and Your Health,* February 1980, by the U.S. Department of Agriculture (USDA) and the U.S. Department of Health and Human Services (formerly Department of Health, Education, and Welfare). In the 1980 edition of Recommended Dietary Allowances, as well as in the "Dietary Guidelines for Americans," issues were identified concerning the consumption of fat, refined sugar, and sodium (salt). There is still debate as to whether recommendations should be made to the public on the intake of fat, saturated fat, and cholesterol. However, it is generally agreed that lifelong moderation in these constituents, as well as in total intake of calories, salt, and sugar, is consistent with good health. Therefore, it is desirable for you to keep fat, sugar, and salt in school lunches and breakfasts at a moderate level. Consistent with this recommendation, the lunch requirements specify that you must offer an unflavored form of fluid lowfat milk, skim milk, or buttermilk to reduce fat. Note that the meal requirements are designed to provide for a lower level of fat than that found in diets of many individuals.


Nutrition and Your Health
Dietary Guidelines for Americans
1 Eat a Variety of Foods
2 Maintain Ideal Weight
3 Avoid Too Much Fat, Saturated Fat, and Cholesterol
4 Eat Foods with Adequate Starch and Fiber
5 Avoid Too Much Sugar
Avoid Too Much Sodium
7 If You Drink Alcohol, Do So in Moderation

Nutrients Provided by Components

Food should provide the following nutrients children need for good health and normal growth:

VITAMINS and **MINERALS** for growth and proper body functioning.

PROTEIN for growth and for building and repair of the body.

FATS and **CARBOHYDRATES** for energy.

No one food contains all of the nutrients in the amounts needed. Therefore, a wise selection of a variety of foods that together will supply these nutrients is very important. Below is a summary of the major nutrient contributions expected to be provided by each component of the lunch or breakfast.

MAJOR NUTRIENTS SUPPLIED BY SCHOOL MEALS

Meat and Meat Alternates
protein
iron
B vitamins—thiamin, riboflavin, niacin, B_6, B_{12}
magnesium
calories

Vegetables and Fruits
vitamin A
vitamin C
iron
vitamin B_6
magnesium
folacin
other vitamins and minerals
fiber
calories

Bread and Bread Alternates
B vitamins—thiamin, niacin, riboflavin
minerals (especially iron)
fiber
calories

Milk, Fluid
calcium
protein
vitamin A
vitamin D (if fortified)
vitamin B_{12}
magnesium
phosphorus
riboflavin
calories

Requirements and Recommendations

The school lunch meal requirements are designed to provide a simple and easy-to-follow framework for planning nutritious and well-balanced lunches. They provide for broad food choices that can include local food preferences and cultural, ethnic, and religious food practices.

Basic Requirements

The meal requirements are specified according to kinds and amounts of food for each of the four food **components.** However, you must serve a **minimum** of five food **items,** as shown below:

Components	Food Items
1. Meat/Meat Alternate	1. Meat/Meat Alternate
2. Vegetable/Fruit	2. Vegetable/Fruit
3. Bread/Bread Alternate	3. Vegetable/Fruit
4. Milk	4. Bread/Bread Alternate
	5. Milk

When foods from these four components are properly combined, the lunches will supply needed nutrients.

As specified in the National School Lunch Program regulations, a school lunch must contain a specified quantity of each of the food components. Chart 1 on page 6 specifies quantities by age/grade group. Groups I and II are for preschool children; Group III, IV, and V are for students in grades K-12.

Note that Groups I through IV are **minimum requirements,** but the quantities specified in Group V are **recommendations.** Schools are encouraged, **not required,** to vary portion sizes to better meet the food and nutritional needs of students by age. If a school chooses **not** to vary portion sizes, it is important to assure that the oldest group of students being served is receiving the minimum requirements for that age group. In other words, for a given age group of students, you may serve more than the minimum quantity, but not less.

Remember that the quantities specified in Group V for students age 12 and over are **recommendations,** not requirements, and that the minimum **requirements** for that group are the quantities specified in Group IV for students age 9 and over. Further explanation of the recommendations to vary portion sizes according to age/grade group is in chapter 3.

In addition to the foods specified in chart 1, other foods may be served at all meals to help improve acceptability, to satisfy students' appetites, to provide additional energy, and, if chosen wisely, to increase the nutritional quality of the lunch.

Exceptions to the Basic Meal Requirements

Medical or Special Dietary Needs

Regulations allow for substitutions in the food components of the basic meal requirements if individual children are unable to consume the required foods because of medical or other special dietary needs. An example would be substituting for milk in the case of a child with lactose intolerance. Such an exception must be supported by a statement from a recognized medical authority which includes recommended substitute foods. The statement should be maintained on file in the school.

Ethnic, Religious, Economic, or Physical Needs

Regulations allow for certain other variations in the food components of the basic meal requirements on an experimental or continuing basis in schools where there is specific evidence that such variations are nutritionally sound and are necessary to meet ethnic, religious, economic, or physical needs. However, these exceptions **must be granted** by the Food and Nutrition Service, USDA, Washington, D.C.

Other Requirements to Consider in Planning Menus

"Offer versus Serve" Provision

The "offer versus serve" provision is the regulation that allows senior high school students, and, when approved by the local school food authority, students in any other grade, to choose fewer than all of the food items within the lunch pattern. The regulation requires that students *be offered* all five food items of the lunch. Students must choose at least three (or four) of these items for their lunch to be reimbursable. Declining one or two items does not relieve nonneedy students from paying the full price for the school lunch, or further reduce the charge paid by students determined eligible for reduced-price lunches.

Senior High School Students. Schools are **required** to implement the "offer versus serve" provision for senior high school students. "Senior high school students" are students (1) of a high school grade level as determined by State and local educational agencies and (2) enrolled in a senior high school which is recognized as a part of the education system within a State. Senior high school students must choose at least three full portions of the five food items offered for their lunch to be reimbursable. When a student has declined a full portion of an item, you may offer a smaller portion of the item. The offering of smaller portions is not mandatory and is a local decision.

Elementary, Middle, and Junior High School Students. The implementation of the "offer versus serve" provision in schools below the senior high school level is left to the discretion of local school food authorities. School food authorities deciding to implement "offer versus serve" in these schools must also decide to what extent it will be implemented. They must determine whether students may decline up to two food items, as in senior high schools, or only one item. They must also decide whether smaller portions will be offered when a student has declined a full portion of an item.

For additional information on implementing the "offer versus serve" provision refer to the USDA guidance material on that subject (see appendix IV).

CHART 1

SCHOOL LUNCH PATTERNS FOR VARIOUS AGE/GRADE GROUPS

U.S. Department of Agriculture, National School Lunch Program

USDA recommends, but does not require, that you adjust portions by age/grade group to better meet the food and nutritional needs of children according to their ages. If you adjust portions, Groups I-IV are minimum requirements for the age/grade groups specified. If you do *not* adjust portions, the Group IV portions are the portions to serve all children.

COMPONENTS		MINIMUM QUANTITIES Preschool ages 1-2 (Group I)	Preschool ages 3-4 (Group II)	Grades K-3 ages 5-8 (Group III)	Grades 4-12[1] age 9 & over (Group IV)	RECOMMENDED QUANTITIES[2] Grades 7-12 age 12 & over (Group V)	SPECIFIC REQUIREMENTS
MEAT OR MEAT ALTERNATE	**A serving of one of the following or a combination to give an equivalent quantity:**						• Must be served in the main dish or the main dish and one other menu item. • Vegetable protein products, cheese alternate products, and enriched macaroni with fortified protein may be used to meet part of the meat/meat alternate requirement. Fact sheets on each of these alternate foods give detailed instructions for use.
	Lean meat, poultry, or fish (edible portion as served)	1 oz	1½ oz	1½ oz	2 oz	3 oz	
	Cheese	1 oz	1½ oz	1½ oz	2 oz	3 oz	
	Large egg(s)	½	¾	¾	1	1½	
	Cooked dry beans or peas	¼ cup	⅜ cup	⅜ cup	½ cup	¾ cup	
	Peanut butter	2 Tbsp	3 Tbsp	3 Tbsp	4 Tbsp	6 Tbsp	
VEGETABLE AND/OR FRUIT	**Two or more servings of vegetable or fruit or both to total**	½ cup	½ cup	½ cup	¾ cup	¾ cup	• No more than one-half of the total requirement may be met with full-strength fruit or vegetable juice. • Cooked dry beans or peas may be used as a meat alternate or as a vegetable but not as both in the same meal.
BREAD OR BREAD ALTERNATE	**Servings of bread or bread alternate** A serving is: • 1 slice of whole-grain or enriched bread • A whole-grain or enriched biscuit, roll, muffin, etc. • ½ cup of cooked whole-grain or enriched rice, macaroni, noodles, whole-grain or enriched pasta products, or other cereal grains such as bulgur or corn grits • A combination of any of the above	5 per week	8 per week	8 per week	8 per week	10 per week	• At least ½ serving of bread or an equivalent quantity of bread alternate for Group I, and 1 serving for Groups II-V, must be served daily. • Enriched macaroni with fortified protein may be used as a meat alternate or as a bread alternate but not as both in the same meal. NOTE: *Food Buying Guide for Child Nutrition Programs*, PA-1331 (1983) provides the information for the minimum weight of a serving.
MILK	**A serving of fluid milk**	¾ cup (6 fl oz)	¾ cup (6 fl oz)	½ pint (8 fl oz)	½ pint (8 fl oz)	½ pint (8 fl oz)	At least one of the following forms of milk must be offered: • Unflavored lowfat milk • Unflavored skim milk • Unflavored buttermilk NOTE: This requirement does not prohibit offering other milks, such as whole milk or flavored milk, along with one or more of the above.

[1]Group IV is highlighted because it is the one meal pattern which will satisfy all requirements if no portion size adjustments are made.

[2]Group V specifies recommended, not required, quantities for students 12 years and older. These students may request smaller portions, but not smaller than those specified in Group IV.

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Student and Parent Involvement

National School Lunch Program regulations **require** school food authorities to promote activities to involve students and parents in the school lunch program. Such activities may include menu planning, enhancement of the eating environment, program promotion, and related student community support activities. The establishment of parent and student school food service committees to assist in menu planning and other activities may greatly improve the overall acceptability of school lunches. For additional information on ways of involving students and parents in menu planning and other activities related to the school lunch program refer to the USDA fact sheet, *Planning and Carrying Out a Program of Student and Parent Involvement.* (See appendix IV.)

Recommendations

Planning Lunches for Various Age/Grade Groups

To better meet the food and nutritional needs of students according to their ages and to minimize food waste among younger students, school lunch regulations **recommend** that schools vary portion sizes.

If a school chooses to vary portion sizes, the regulations:

Require that preschool children (ages 1-4) be served **no less** than the minimum quantities specified for Groups I and II of chart 1 in this chapter.

Require that students in grades kindergarten-3 (ages 5-8) be served **no less** than the minimum quantities specified in Group III.

Require that students in grades 4-12 (age 9 and over) be served **no less** than the minimum quantities specified in Group IV.

Recommend that students in grades 7-12 (age 12 years and older) be served quantities specified in Group V. These older students may be provided the choice of the smaller quantities as specified in Group IV.

Instructions on how to plan menus for various age/grade groups are in chapter 3 of this guide.

Offering Choices

To give greater emphasis to the need for serving a variety of foods and to encourage food consumption and participation in the program, it is **recommended that:**

- choices be provided whenever possible. Offer a selection of foods and types of milk from which students may make choices.

- in schools that do not offer choices of meat/meat alternates each day, no one meat alternate or form of meat be served more than three times a week.

In the latter recommendation, "form of meat" refers to ground, sliced, pieces, etc. For example, this recommendation means that four items made with ground beef, such as tacos, spaghetti with meat sauce, hamburgers, and chili-con-carne should not be served in a single week. "Meat alternate" refers to cheese, peanut butter, cooked dry beans or peas, and eggs. For example, toasted cheese sandwiches, macaroni and cheese, pizza with cheese, and cheeseburgers should not all be served in a single week. Schools that **do offer** choices of meat/meat alternates each day may serve any one meat alternate or form of meat as **frequently** as good menu planning practices allow.

Moderating Fat, Sugar, and Salt

Schools are encouraged to keep the amount of fat, sugar, and salt in school meals at a moderate level by limiting, as feasible: (1) the frequency of service of foods that contain relatively high levels and (2) the quantities used in food preparation. To accomplish these objectives, you should examine and modify four major areas as needed:

- Menu Planning
- Food Purchasing
- Quantity Recipe Selection
- Food Production Techniques

Appendix III, *Moderating Fat, Sugar, and Salt in School Lunches and Breakfasts*, provides detailed ways of carrying out these objectives.

Foods Rich in Vitamins A and C and Iron

To help assure that all school lunches meet the nutritional goal, it is recommended that lunches include:

- a **VITAMIN A** vegetable or fruit at least twice a week
- a **VITAMIN C** vegetable or fruit at least 2 or 3 times a week
- several foods for **IRON** each day

Lists of foods which are good sources of these nutrients are in chart 2 on the following pages.

CHART 2. Foods for School Lunches and Breakfasts

Meat and Meat Alternate	Vegetables and Fruits		
	Include a VITAMIN A vegetable or fruit at least twice a week[1]	*Include a VITAMIN C vegetable or fruit at least two or three times a week*[2]	*Include these vegetables and fruits as needed*
Cheese Cheddar Cottage Swiss Dry beans Dry peas Eggs — dried, whole frozen, whole shell Fish and shellfish Meat — canned, dried, fresh and frozen Beef Lamb Pork Veal Variety meats Bologna Frankfurters Liver[5] and other organ meats Knockwurst Peanut butter Poultry — canned, fresh and frozen Chicken Turkey Cheese alternate (when mixed in a cooked product with natural or processed cheese) Protein-fortified, enriched macaroni (when mixed with meat, poultry, fish, or cheese) **Vegetable protein products** (when mixed with meat, poultry, or fish)	**¼-cup serving** *(about 1500 or more International units of vit. A)* Beet greens Carrots Chard, swiss Chili peppers, red[3] Collards[3] Cress, garden[3] Dandelion greens[3] Kale[3] Mangoes[3] Mixed Vegetables Mustard greens[3] Peas and carrots (canned or frozen) Peppers, sweet red[3] Pumpkin Spinach[3] Squash, winter (acorn, butternut, Hubbard) Sweet potatoes[3] Turnip greens[3] **¼-cup serving** *(about 750-1500 International units of vit. A)* Apricots Broccoli[3] Cantaloupe[3] Chicory greens Papayas[3] Purple plums (canned) **½-cup serving** *(about 750-1500 International units of vit. A)* Asparagus, green[3] Cherries, red sour Chili peppers, green (fresh)[3] Endive, curly Escarole Nectarines Peaches (except canned) Prunes Tomatoes[3] Tomato juice or reconstituted paste or puree[3]	**¼-cup serving** *(about 25 milligrams or more of vit. C)* Acerola Broccoli[4] Brussels sprouts Chili peppers, red[4] and green Guavas Orange juice Oranges Papayas[4] Peppers, sweet red[4] and green **¼-cup serving** *(about 15-25 milligrams of vit. C)* Cauliflower Collards[4] Cress, garden[4] Grapefruit Grapefruit juice Grapefruit-orange juice Kale[4] Kohlrabi Kumquats Mangoes[4] Mustard greens[4] Pineapple juice (canned — vitamin C restored) Strawberries Tangerine juice Tangerines **¼-cup serving** *(about 8-15 milligrams of vit. C)* Asparagus Cabbage Cantaloupe[4] Dandelion greens[4] Honeydew melon Okra Potatoes (baked, boiled, or steamed) Potatoes (reconstituted instant mashed — vitamin C restored) Raspberries, red Rutabagas Sauerkraut Spinach[4] Sweet potatoes[4] (except those canned in syrup) Tangelos Tomatoes Tomato juice or reconstituted paste or puree Turnip greens Turnips	Apples Applesauce Avocados Bananas Beans, green or wax Beans, lima, green Bean sprouts Beets Berries (black, blue, etc.) Celery Chinese cabbage Corn Cranberries Cranberry sauce Cucumbers Dates Eggplant Figs Fruit cocktail Fruits for salads Grapes Lettuce Mushrooms Olives Onions Parsley Parsnips Peaches (canned) Pears Peas and carrots (canned) Cowpeas, immature seed Pimientos Pineapple Plums Potatoes (mashed, fried, etc.) Radishes Raisins Rhubarb Squash, summer Watercress Watermelon Fruit juices (apple, grape, pineapple, etc.)

[1]**Vitamin A Vegetables and Fruits.** The vegetables and fruits listed below will supply at least 750 International Units of vitamin A per 1/4- or 1/2-cup serving. When these vegetables and fruits are served at least twice a week in recommended amounts along with a variety of additional vegetables and fruits used to meet the vegetable and fruit requirement, the vitamin A content of the lunch will generally meet one-third of the Recommended Dietary Allowance for each age/grade group.

[2]**Vitamin C Vegetables and Fruits.** The vegetables and fruits listed below will supply about 8 milligrams or more vitamin C (ascorbic acid) per 1/4-cup serving. When these vegetables and fruits are served at least two or three times a week in recommended amounts along with a variety of additional vegetables and fruits to meet the vegetable and fruit requirement, the vitamin C content of the lunch will generally meet one-third of the Recommended Dietary Allowance for each age/grade group.

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CHART 2. Foods for School Lunches and Breakfasts (Continued)

Bread and Bread Alternate	Milk	Foods for Iron
Group A *(0.9 oz or 25 gm)* **Bagels** **Biscuits** **Boston brown bread** **Breads, sliced, all types (white, rye, whole wheat, raisin, quick breads, etc.)** Coffee cake (breakfast only) Cornbread **Croissants** Doughnuts (breakfast only) **Egg roll/won ton wrappers** English muffins **French, Vienna, or Italian Bread** Muffins **Pizza crust** Pretzels (soft) **Rolls and Buns** Stuffing (bread) **Sweet rolls and sweet buns** (breakfast only) **Syrian bread (pita)** **Group B** *(0.7 oz or 20 gm)* **Batter and/or breading** Bread sticks (dry) **Chow mein noodles** **Graham crackers** **Melba toast** Rye wafers Saltine crackers Soda crackers **Taco shells (whole and pieces)** Zwieback **Group C** *(1.1 oz or 30 gm)* Dumplings Hush puppies Meat pie crust Meat turnover crust Pancakes Sopaipillas Spoonbread Tortillas Waffles **Group D** *(½-cup cooked)* **Barley** Bulgur Corn grits **Breakfast cereals, dry or cooked (breakfast only—¾ cup or 1 oz)** Lasagna noodles **Macaroni, spaghetti, etc.** Noodles (egg) **Ravioli pasta** Rice	**Milk, fluid** Cultured buttermilk Flavored milk Lowfat Skim Whole	**Meat and Meat Alternate** Dry beans and peas Eggs Meats in general especially liver and other organ meats Peanut butter Shellfish Turkey **Vegetables and Fruits** Apricots (canned) Asparagus (canned) Beans—green, wax, lima (canned) Bean sprouts Beets (canned) Broccoli Brussels sprouts Cherries (canned) Dried fruits—apples, apricots, dates, figs, peaches, prunes, raisins Grapes (canned) Parsnips Peas, green Potatoes (canned) Sauerkraut (canned) Squash (winter) Sweet potatoes Tomatoes (canned) Tomato juice, paste, puree, sauce Vegetables: Dark green leafy—beet greens, chard, collards, kale, mustard greens, spinach, turnip greens Vegetable juice (canned) **Bread and Bread Alternates** All enriched or whole-grain bread and bread alternates.

[3]See listing of vitamin C foods.

[4]See listing of vitamin A foods.

[5]One ounce provides more than 1500 International Units of vitamin A.

[6]**Foods for Iron.** Because of the way iron is distributed among many foods (meats, vegetables and fruits, and breads), it is recommended that each lunch include several foods that are worthwhile sources of iron in sufficient quantities for the age/grade group served. The list of foods for iron includes meat and meat alternate foods that supply at least 1.0 milligram of iron per 2-ounce serving of meat or alternate, breads and other foods that supply 0.6 milligram of iron per serving, and fruits and vegetables that provide at least 0.3 milligram of iron per 1/4-cup serving.

The extent the body can make use of the iron in foods depends not only on the amount of iron in foods, but on the source of iron—whether it comes from a meat or a nonmeat source—and on the other foods that are eaten in the meal. The body can make better use of the iron in these foods if they are eaten in the same meal as a good source of vitamin C or along with meat.

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Specific Requirements and Policies by Component

There are a number of specific requirements and policies interpreting each component of the meal pattern. You must consider these when planning menus.

Meat/Meat Alternate Component

Minimum quantities for students, grades K-12:

One of the following or a combination to give an equivalent quantity:	Grades K-3 ages 5-8 (Group III)	Grades 4-12 age 9 and over (Group IV)
Lean meat, poultry, or fish	1½ oz	2 oz
Cheese	1½ oz	2 oz
Large eggs	¾	1
Cooked dry beans or peas	⅜ cup	½ cup
Peanut butter	3 Tbsp	4 Tbsp

Specific Requirements and Policies

• The meat/meat alternate must be served in the main dish or the main dish and one other menu item. This means that two menu items are the maximum number which may be used to meet the meat/meat alternate requirement.

Some examples of combinations for meeting the 1½-oz meat/meat alternate requirement are as follows:

1 oz cooked lean meat + ½ oz cheese
1 oz cooked fish + ¼ egg
1 oz cooked lean meat + ⅛ cup cooked dry beans
¼ cup cottage cheese + ¼ egg
1 oz cooked poultry + 1 Tbsp peanut butter
¼ cup cooked dry peas + ½ oz cheese
2 Tbsp peanut butter + ½ oz cheese

Some examples of combinations for meeting the 2-oz meat/meat alternate requirement are as follows:

1 oz cooked lean meat + 1 oz cheese
1 oz cooked fish + ½ egg
1 oz cooked lean meat + ¼ cup cooked dry beans
¼ cup cottage cheese + ½ egg
1-½ oz cooked poultry + 1 Tbsp peanut butter
1-½ oz cooked lean meat + ½ oz cheese
¼ cup cooked dry peas + 1 oz cheese
2 Tbsp peanut butter + 1 oz cheese

• Small amounts of meat or meat alternate used as garnishes, seasoning, or in breadings should **not** be counted toward meeting the meat/meat alternate requirement of the meal. Examples are grated parmesan cheese used as a garnish over spaghetti or egg used in breading. Although use of such

garnishes is encouraged to make the lunch more appealing, the amounts are not sufficient to make a real nutritional contribution to the lunch.

• Cheese foods and cheese spreads may be used to meet the meat/meat alternate requirement. However, twice as much is needed. That is, a 2-ounce serving of cheese food or cheese spread is equivalent to only 1 ounce of meat/meat alternate.

• Cooked dry beans or peas may be used to meet the meat/meat alternate requirement or the vegetable/fruit requirement, but not both in the same meal.

• Nuts, such as peanuts, almonds, pecans, and walnuts, are traditionally considered snack foods and may not be used to meet the meat/meat alternate requirement.

• Three additional "alternate foods" are authorized by USDA to meet part of the meat/meat alternate requirement when made and used according to USDA's directions. They are:

1. Cheese alternate products. These are cheese substitutes used as extenders for cheese and are usually made from hydrogenated vegetable oil and a form of milk protein. They have the texture, consistency, and appearance of cheese. Cheese alternates are fortified with vitamins and minerals and are nutritionally comparable to cheese.

Stipulations for Using Cheese Alternates

The cheese alternate must be combined with natural or processed cheese.

The cheese alternate may meet no more than 50 percent of the meat/meat alternate requirement.

The cheese alternate and cheese may only be used in cooked menu items, such as macaroni and cheese, cheeseburgers, grilled cheese sandwiches, pizza, etc.

Only cheese alternates that appear on the USDA "Listing of Acceptable Cheese Alternate Products" and have substantially the following statement on the label may be used: "This product meets USDA-FNS specifications for cheese alternate products."

You will find more details for using these products on the USDA fact sheet, *The What's, Why's, and How's of Cheese Alternate Products.* (See appendix IV.)

2. Vegetable protein products. These are processed from soy or other vegetable protein sources and are usually in dehydrated granule, particle, or flake form. The product may be colored or uncolored, seasoned or unseasoned, but must be fortified with vitamins and minerals. When mixed with meat, poultry, or fish, vegetable protein products will resemble cooked meat, poultry, or fish, and are being used successfully as substitutes for these foods.

Stipulations for Using Vegetable Protein Products

Vegetable protein products must be combined with meat, poultry, or fish. They may be used in the fully hydrated, partially hydrated, or dry form.

Fully hydrated vegetable protein products may be used to meet no more than 30 percent of the meat/meat alternate requirement—a maximum ratio of 30 parts hydrated vegetable protein product to 70 parts uncooked meat, poultry, or fish.

Only products that have the following statement on the label may be used as an alternate food: "This product meets USDA-FNS requirements for use in meeting a portion of the meat/meat alternate requirement of the child nutrition programs." This statement must appear on the principal display area of the package.

For more guidance on identifying acceptable products, hydration procedures, and using these products, refer to guidance material on this subject provided by USDA (see appendix IV).

3. Enriched macaroni products with fortified protein. These are enriched macaroni products which have been fortified with a source of **protein.** They are **not** the same as regular enriched macaroni that you normally purchase. The words "with fortified protein" must be part of the name on the label. Only these protein-rich products are eligible to meet part of the meat/meat alternate requirement of the school lunch. Macaroni products include various forms of macaroni, spaghetti, ravioli, and lasagna.

Stipulations for Using Enriched Macaroni with Fortified Protein

Dry enriched macaroni with fortified protein must be combined with meat, poultry, fish, or cheese.

Dry enriched macaroni with fortified protein may be used to meet no more than 50 percent of the meat/meat alternate requirement—a maximum ratio of one part enriched macaroni to one part cooked meat, poultry, fish, or cheese.

Enriched macaroni with fortified protein may be counted as a meat alternate, or as a bread alternate, but not as both in the same meal.

Only products that appear on the USDA "Listing of Acceptable Enriched Macaroni Products with Fortified Protein" and that have substantially the following statement on the label may be used: "One ounce dry weight of this product meets one-half of the meat or meat alternate requirements of lunch or supper of the USDA child nutrition programs when served in combination with one or more ounces of cooked meat, poultry, fish, or cheese."

You will find more details for using this product on the USDA fact sheet, *Information on Using Protein Fortified, Enriched Macaroni-Type Products in Child Nutrition Programs.* (See appendix IV.)

Vegetable/Fruit Component

Minimum quantities for students, grades K-12:

	Grades K-3 ages 5-8 (Group III)	Grades 4-12 age 9 and over (Group IV)
• *Two or more servings of vegetables or fruits or both to total*	½ cup	¾ cup

Specific Requirements and Policies

• The required ½ or ¾ cup must consist of two or more servings. Menu items such as fruit cocktail and mixed vegetables are considered as only one item. Large combination vegetable and/or fruit salads, containing at least ¾ cup of two or more vegetables and/or fruits in combination with meat or meat alternates intended to fulfill the role of an entree, such as a chef's salad or a fruit plate with cottage cheese, are considered as two or more servings and will meet the full requirement.

Some examples of combinations for meeting the ½-cup vegetable/fruit requirement are as follows:

3/8 cup vegetable + 1/8 cup fruit
1/4 cup vegetable + 1/4 cup vegetable
1/4 cup vegetable + 1/4 cup fruit
1/4 cup fruit + 1/4 cup fruit
1/4 cup juice (full-strength) + 1/4 cup vegetable
1/8 cup vegetable + 1/8 cup vegetable + 1/4 cup fruit

Some examples of combinations for meeting the ¾-cup vegetable/fruit requirement are as follows:

3/8 cup vegetable + 3/8 cup fruit
1/4 cup vegetable + 1/4 cup vegetable + 1/4 cup fruit
3/8 cup vegetable + 1/4 cup vegetable + 1/8 cup fruit
3/8 cup juice (full-strength) + 3/8 cup vegetable
1/4 cup juice (full-strength) + 1/2 cup vegetable

You cannot count full-strength fruit or vegetable juice to meet more than one-half of the vegetable/fruit requirement. Any product—either liquid or frozen—labeled "juice," "full-strength juice," "single strength juice," or "reconstituted juice" is considered full-strength juice.

"Juice drinks" served either in liquid or frozen form may contain only a small amount of full-strength juice. The product label may indicate the percentage of full-strength juice in the product. This information is needed to determine the contribution of the product to the meal. To be used in meeting a part of the vegetable/fruit requirement, the product must contain a minimum of 50 percent full-strength juice. Only the full-strength juice portion may be counted to meet the vegetable/fruit requirement.

Examples:

3 ounces of full-strength juice will provide 3/8 cup of vegetable/fruit (one-half of the requirement for students in grades 4-12 [Group IV, age 9 and over]).

2 ounces of full-strength juice will provide ¼ cup of vegetable/fruit (one-third of the requirement for students in grades 4-12 [Group IV, age 9 and over] or one-half of the requirement for students in grades K-3 [Group III, ages 5-8]).

• Cooked dry beans or peas may be used as a meat alternate or as a vegetable but not as both in the same meal.

• Small amounts (less than 1/8 cup) of vegetables and fruits used for flavoring or an optional ingredient, such as a garnish, should not be counted to meet the vegetable/fruit requirement. These small amounts are generally not controlled and no determination can be made of the contribution to the lunch.

• Potato chips, corn chips, and other similar chips which are considered snack foods may not be counted as a vegetable to meet the vegetable/fruit requirement.

• Vegetable and fruit concentrates may be credited on a single-strength reconstituted basis rather than on the actual volume as served, regardless of the concentration or dilution.

Bread/Bread Alternate Component

Minimum quantities for students, grades K-12:

	Grades K-3 ages 5-8 (Group III)	Grades 4-12 age 9 and over (Group IV)
Servings of bread or bread alternate	8 per week	8 per week

A serving is:
- One slice of whole-grain or enriched bread
- A biscuit, roll, muffin, etc., whole-grain or enriched
- 1/2 cup of cooked whole-grain or enriched rice
- 1/2 cup of macaroni, noodles, other whole-grain or enriched pasta products, or other cereal grains such as bulgur or corn grits
- A combination of any of the above.

Refer to *Food Buying Guide for Child Nutrition Programs* (1983), Bread and Bread Alternates Section, for weights of servings and a detailed list of breads and bread alternates.

Specific Requirements and Policies

- Only breads or bread alternates that are whole-grain or enriched may be used to meet the bread requirement.

- The daily minimum lunch requirements of bread or bread alternate by group are as follows: Group I, one-half serving; Groups II-IV, one serving. Over a 5-day week, the total requirements are: Group I, 5 servings of bread or bread alternate; Groups II-IV, 8 servings. Schools serving lunch 6 or 7 days per week should increase this specified quantity for the 5-day period by approximately 20 percent (one-fifth) for each additional day. Accordingly, for each day less than a 5-day week, the school should decrease the quantity by approximately 20 percent (one-fifth).

- In order for an item to be counted toward meeting the bread requirement, it should be at least one-fourth of a serving.

- Only bread/bread alternates that are customarily served as an accompaniment to or a recognizable integral part of the main dish may be used to meet the bread requirement. You may not use dessert and snack-type foods, such as cakes, cookies, dessert pie crust, hard thin pretzels, and corn chips, to meet the bread requirement.

- Minimum weights of a serving of various breads and bread alternates must be met. These minimum weights are given in the *Food Buying Guide for Child Nutrition Programs*.

- Enriched macaroni products with fortified protein may be used to meet a part of the meat/meat alternate requirement or to meet the bread/bread alternate requirement, but not both in the same meal.

Milk Component

Minimum quantities for students, grades K-12:

	Grades K-3 ages 5-8 (Group III)	Grades 4-12 age 9 and over (Group IV)
A serving of fluid milk	½ pint (8 fl oz)	½ pint (8 fl oz)

At least one of the following forms of milk must be offered:
Unflavored lowfat milk
Unflavored skim milk
Unflavored buttermilk

Note: This requirement does not prohibit offering other milks, such as whole milk or flavored milk, along with one or more of the above.

Specific Requirements and Policies

- Milk must be served as a beverage in lunches.
- Milkshakes containing ½ pint of fluid milk meeting State or local standards for fluid milk may be served as a choice to meet the milk requirement.

Exceptions to the Milk Component

- It is recognized that some schools may not be able to obtain a supply of unflavored fluid lowfat milk, skim milk, or buttermilk on a continuing basis due to local conditions. In such cases, the State agency, or Food and Nutrition Service Regional Office, where applicable, may approve the service of another type of fluid milk. It is recommended that you seek approval of available fluid milk with the lowest fat and sugar content as an alternate.

The Basics of Menu Planning

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U.S. Department of Agriculture

General Principles

Creative menu planning calls for originality, imagination, and a spirit of adventure. Those responsible for planning menus must have as their goal to plan appealing and interesting lunch and breakfast menus that keep within the budget. Lunches can vary from the simple box lunch to the lunch with many choices. Advances in food technology make it possible to select foods from many forms, such as frozen or chilled, partially or totally prepared, either preportioned or in bulk, or food prepared from "scratch."

As Menus Are Planned, Consider the Points that Follow:

Plan for Variety

You must consider variety when combining the components of a lunch menu in order to provide meals that are acceptable and that will meet the nutritional goal of one-third RDA over a period of time. Acceptability, of course, determines how frequently a food can be repeated before it becomes monotonous.

Therefore, when planning meals . . .

- *Include a wide variety of foods from day to day.* Unless you provide choices, avoid planning the same form of food on consecutive days, such as meatballs with spaghetti on Monday and beef patties on Tuesday.

- *Plan for variation in types of lunch menus.* For example, plan lunches around casseroles, soup and sandwiches, or main-dish salads.

- *Include different forms of foods prepared in different ways.* You can use vegetables raw or cooked, peeled or unpeeled, buttered, creamed, or scalloped with different sauces or seasonings, but be sure the "different way" of serving is as good or better than the "usual way."

- *Include the food combinations most acceptable to students in your school.* The lower the acceptability of the menu item, the less frequently you should serve it.

- *Include a surprise item or a small amount of a new or unfamiliar food periodically.* For example, add a small amount of an unfamiliar or possibly less popular food, such as raw cauliflower to a salad.

Plan for Choices

Food service personnel must recognize the importance of serving a variety of choices among high-quality foods at reasonable prices and in attractive settings. Plan to include choices, either in all four food components or within one or two food components for both elementary and secondary students. Any school food service program, regardless of size, can offer choices in the menu. Offering choices in schools implementing the "offer versus serve" provision will not only encourage these students to select foods they intend to eat but will also increase the chances of these students selecting the full lunch.

A limited number of choices may be offered within a few food components. For example, the vegetable/fruit can be a serving of fruit and a choice between two vegetables. On the other hand, where you can, do offer several choices within the total framework of the school lunch. Decide on the number of choices in each category of food that you can offer in your operation, and plan menus accordingly. With careful planning and efficient management, offering choices need not increase your operating costs.

Plan for Contrast

Strive for variety in terms of texture, flavor, methods of preparation, etc.

Therefore, when planning meals . . .

• *Use some crisp, firm foods with soft creamy ones.* For example, a green salad, raw vegetable sticks, a hard roll, or a slice of whole-grain bread could provide crispness to a meal with macaroni and cheese.

• *Plan for balance.* Include both light and heavy foods in each meal. For example, serve a hearty casserole main dish with a light vegetable or a light dessert such as fresh fruit. A lunch with too many starches, too many fried foods, or too many sweet foods lacks balance.

• *Plan for flavor-balanced menus.* For example, use a combination of mild and strong flavored foods, such as cranberry sauce with turkey. Avoid using too many foods with strong flavors such as broccoli and cole slaw in the same meal.

• *Use a pleasing combination of different sizes and shapes of foods.* Within a meal, present foods in several different shapes, such as mounds, cubes, shredded bits, strips, etc. A lunch containing meatballs, steamed whole potatoes, whole beets, and muffins, or cubed meat, diced potatoes, mixed vegetables, and fruit cocktail needs more contrast in sizes and shapes of foods.

Plan for Eye Appeal

Use combinations of colors that blend well. Consider the color of the dishes, plates, or trays to be used as well as the colors of the foods.

Therefore, when planning meals . . .

• *Strive for contrast and maximum color presentation.* Avoid using too many foods of the same color in the same lunch, such as turkey and rice, cauliflower, sliced bread, and pears. Instead, try turkey and cranberry sauce, green peas, whole wheat bread, and pears.

• *Use at least one or two colorful foods in each menu.* The natural red, green, and orange colors of fruits and vegetables add eye appeal.

• *Use colorful foods in combination with those of little or no color.* For example, use broccoli spears with whipped potatoes, or pimento or green pepper in corn.

• *Use garnishes to brighten food naturally lacking in color.* For example, add a slice of radish or cucumber, a tomato wedge, a piece of brightly colored fruit, a sprig of parsley, or a dash of paprika.

• *Plan the way you will place the menu items on the tray or plate.* Visualize how the food will look when served and decide on the most attractive arrangement. Before serving the lunch, portion a sample plate, so that all servers can see how it should look with regard to serving size, arrangement on plate or tray, and garnish.

Other Areas to Consider

Food Habits

Plan lunches that cater to the regional, cultural, and personal food preferences of students. However, include "new" or less popular foods with well-liked or familiar ones as choices and encourage students to try the new food.

• Introduce as "new foods" those which are good sources of vitamins A and C and iron.
• Be sure menus do not reflect your personal food prejudices.

Special Occasions

Plan lunches which have a festive air for school and national holidays, special school activities, children's birthdays, parents' visiting days, National School Lunch Week, and National Nutrition Month in March.

Climate or Seasons

Include more hot foods in cold weather, and more cold foods and salads in warm weather.

Availability of Foods

Use foods in season. Serve fresh foods when they are plentiful and at the peak of quality.

Delivery Schedules

Consider the availability of foods from local suppliers. Reduce the number of deliveries you need. For example, plan menus that include fresh produce or commercially baked breads that you can serve on consecutive days.

Food Cost

- Operate within a budget.
- Precost your menu. Keep records of the approximate cost per serving of each menu item in order to determine what each lunch will cost, and the average lunch cost per month. You can make substitutions if the average cost of the menu runs too high. For information on precosting menus, see *A Guide for Precosting Food for School Food Service.*
- Keep abreast of price trends and the market availability of various foods. Identify extremes—items which are very high-priced or those which are very low-priced—with a view to minimizing and maximizing, respectively, in the menu.
- Use USDA-donated foods when available. Use them as efficiently and creatively as you would if you had purchased the food.
- Keep records of food purchased and used, and food available in inventories.
- Use standardized recipes for food preparation and portion control.
- Postcost menus and compare with precost. Use this information to make menu adjustments and pinpoint possible problem areas.
- Plan carefully to receive maximum benefits from facilities and personnel.
- Keep participation records about your customers and production records which note menu acceptability.

Food Purchasing

Foods you serve can only be as good as the quality of the foods you purchase. Careful use of competitive buying will not only help control your food cost but will help upgrade the quality of your meals.

- Be familiar with sources of supply and buy from suppliers that provide the best quality food at the most reasonable prices.
- Buy according to how you will use a product. Consider grade, style, type, size, count, container, and packing medium.
- Develop purchase specifications to ensure the purchase of quality foods at competitive prices.
- Inspect upon delivery to assure specifications are met. Whenever possible, buy foods that are Federally graded and inspected.
- For commercially prepared foods, determine the quantities of foods needed and portion sizes according to the age/grade group to be served. Be sure the purchase specifications include that information.
- Remember storage facilities. Decide when to buy each type of food, keeping in mind perishability and storage space.
- Keep records of food purchases.
- Refer to *Food Purchasing Pointers for School Food Service* for additional information in purchasing quality foods. (See appendix IV.)

Facilities and Equipment

Plan lunches that you can prepare and serve with the facilities and equipment available.

- Consider kind and size of ovens, kettles, steamers, and other equipment, as well as freezer and refrigeration space.

• Consider sheet and baking pans, steamtable inserts, and other equipment used in meal preparation.
• Consider the numbers and kinds of serving tools and dishes or compartments in a compartment tray needed to serve each lunch.

Personnel

Plan lunches and breakfasts that employees can prepare in the time available.
• Consider the amount of hand preparation required for each menu.
• Schedule employees' time so that their particular skills can be used to best advantage.
• Balance the workload each day—from day to day and from week to week.

A System for Menu Planning

Planning menus that satisfy and nourish preschoolers, elementary-age children, and teenagers is a challenging and complex task. From a management standpoint, however, menu planning is probably the most important phase of school food service operations. The wise supervisor or manager will organize the efforts and capitalize on the imagination and talents of many individuals and student groups, thereby assuring food acceptability as well as nutritional adequacy.

Keep in mind, though, that menus must reflect the capabilities of your food service system. Following are some guidelines that may make the job easier and more efficient:

Collect Reference Materials and Special Aids

- Checklist for evaluating menus (at the end of this chapter)
- Previous menus
- Inventories of USDA-donated foods and purchased foods
- Current price lists and market reports
- Menu item lists—popular foods, unpopular foods
- Past food production records
- School calendar—which will identify the days on which special occasions, holidays, or other circumstances of local significance will influence the menu to be served.
- Publications, such as:

Menu Planning Guide for School Food Service
A Guide for Precosting Food for School Food Service
Food Buying Guide for Child Nutrition Programs
Food Purchasing Pointers for School Food Service
Quantity Recipes for Type A School Lunches
Other recipes
Fact sheets on USDA-donated foods.

Determine a Time Period

- Plan menus for at least 1 month at a time. See section on cycle menus in this chapter.
- Consider your purchasing and delivery schedules.

Schedule a Time to Plan Menus

- Plan menus at least 2 weeks, preferably a month, ahead of the time they are to be served.
- Allow enough time to (1) study food inventories, current market and price reports, previous menus, and food production records; (2) review menu item lists; (3) select recipes; and (4) plan and check the resulting menus.
- Allow time to involve students, parents, and other interested parties in the planning.

Plan for the Total Job

Good menu planning goes beyond the listing of specific foods to be included in daily lunches. A menu planning worksheet can help organize the total job:

- Record the planned menus on a worksheet which meets your school's needs. (See appendix II for sample worksheet.)
- Determine the serving sizes and record them beside the menu item on your worksheet.

- Select the specific recipes to be used in preparing the different menu items. Refer to *Quantity Recipes for Type A School Lunches* or *Quantity Recipes for Child Care Centers*, or other standardized recipes.
- Evaluate the menus for meeting lunch requirements by food components and quantities, as well as for good menu planning practices.
- Calculate the cost of the lunches. Refer to *A Guide for Precosting Food for School Food Service.* (See appendix IV.)
- Forecast the number of lunches and the number of servings of each menu item you prepare for various age/grade groups by using past food production records.
- Adjust the recipes you select so that they provide the necessary number of servings for the age/grade groups you serve.
- Develop production records by listing the menu items, portion sizes, and quantities of foods you need to serve the forecasted number of meals to students and adults. Use the recipes and the *Food Buying Guide for Child Nutrition Programs* for quantities.
- Determine food inventories and then prepare purchase orders.
- Develop work schedules.

Cycle Menus

Cycle menus are a series of carefully planned menus, used for a definite cycle of time, and then repeated.

Cycle Menus Are an Effective Management Tool

They give you an excellent overview of the meals to be served over a period of time as well as aid in menu evaluation and improvement. They save time and give you an opportunity to improve menus. The cycle menus can help you have the best, most economical, and most nutritious meals possible.

Determine a cycle menu pattern far in advance. If you don't want the menus to be repeated on the same day in consecutive weeks, plan menus for an odd number of days not divisible by five, such as 11, 13, or 21 days.

Cycle Menus Have Many Advantages

Time required for menu planning is reduced. After the initial planning of a cycle menu has been completed, the planner has time to revise and make changes to meet special needs, such as for holidays and vacations. This not only avoids last-minute decisions on just what items you should include, but also provides an opportunity to improve menus in the cycle.

Forecasting is more accurate. Since items on a cycle menu appear in the same grouping each time they are produced, it is easy to determine the relative popularity of each item and forecast production needs. This is particularly useful when offering choices and in schools implementing the "offer versus serve" provision.

Food preparation can become more efficient. Repetition of the same or nearly the same menu helps standardize preparation procedures and gives the employees a chance to become more efficient through repeated use of familiar recipes.

Costs can be better controlled. Repetition of menu items helps to forecast costs more accurately and detect cost problems.

Purchasing and inventory can be streamlined.

Time required to plan work schedules is reduced. You can reuse work schedules. Workloads become constant and evenly distributed so that you can determine labor requirements more accurately.

Cycle Menus Can Have Disadvantages

Menus can become monotonous and repetitious if not carefully planned. This is something that needs to be evaluated continually. The more choices that are planned, the less likely the menus are to become monotonous.

Foods in season may not be used to the best advantage. This can be avoided through flexibility, such as using general descriptive terms—"fresh fruit"—rather than specific ones—apples, for example. Or, three sets of cycle menus may be planned, one for each season—fall (September, October, November), winter (December, January, February), and spring (March, April, May).

Holidays and special school activities may go unrecognized. To keep this from happening, you will need to designate that on specific days a special menu is to be substituted for the one in the cycle.

USDA-donated foods that you receive during the year may not fit in. The cycle may need adjusting as you receive such foods. Use of general descriptive terms, as described above, can help solve this problem, too.

Leftovers may be difficult to use. If you can add choices when you need to work leftovers into the menus, food waste can be lessened.

Planning Cycle Menus

Decide on the types of lunches and breakfasts you will be planning. For example, determine the number of choices to be offered in each food component or between types of meals such as hot or cold entrees.

Determine the length of the cycle—2 weeks, 4 weeks, etc.

Select the lunch patterns appropriate for the age/grade groups to be served.

Remember that flexibility is the keynote—you should review menus frequently to make adjustments for changes in availability of USDA-donated foods; to take advantage of an especially good buy or a seasonal food; and to allow for a holiday or special celebration. Also, a good practice is to keep a list of substitute items to use in the event of an emergency or a changing situation.

CAREFUL SYSTEMATIC PLANNING OF MENUS—WELL IN ADVANCE—IS A KEY TO GOOD MANAGEMENT.

Steps in Planning Menus

Both the meal requirements and considerations in menu planning have been outlined. Now we are ready to put them together and choose foods that make good menus.

First select the school lunch patterns appropriate for the age/grade groups you will be serving and the period of time these menus cover. Then follow the steps below, using a menu planning worksheet, such as in appendix II.

1

Select a Meat or Meat Alternate

- Plan the meat or meat alternate for the entire length of time for which menus are being served. Use a variety of meats or meat alternates — in the main dish, such as casseroles, stews, or patties or *in the main dish and one other menu item,* such as sandwich and soup or sandwich and salad.

- Plan reasonable serving sizes of meat alternates. In order to avoid overly large servings, it may be desirable to serve some meat alternates, such as dry beans and peas, peanut butter, and eggs, in combination with meats or other meat alternates, for example: frankfurter and baked beans, fish sandwich and peanut butter-stuffed celery, or egg salad sandwich and cheese chunk.

- Plan a different meat or meat alternate or a different combination of meat or meat alternates for each day in the week.

- Follow a plan for providing a good variety of meats and meat alternates in the main dishes. For example, in a 4-week period, your plan to meet the meat and meat alternate requirement could be like the example that follows:

Meat, alone or supplemented with cheese or peanut butter.....6 to 8 times
Poultry, fish, or cheese alone or supplemented with eggs or peanut butter.....6 to 8 times
Dry beans or dry peas combined with meat or cheese.....4 times
Other meat and meat alternate or any combination of meat and meat alternate foods.....2 times

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- Include meats and meat alternates that are good sources of iron as frequently as possible.

- If you repeat the same main dish during a 2-week period, consider varying the vegetables and fruits used.

- If you do *not* offer a choice of meat/meat alternate, serve no one meat alternate or form of meat (ground, sliced, pieces, etc.) more than three times in a single week.

- Counterbalance expensive meat or meat alternate items with some that are less expensive.

- In "offer versus serve" situations, it may be wise to plan the meat/meat alternate component in only one menu item. Otherwise, if the meat is served in the main dish and in one other menu item, a student would have to select both items to meet the component requirement.

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Lunch Pattern	MONDAY	PORTION SIZE		TUESDAY	PORTION SIZE	
Meat and Meat Alternate	Oven Fried Chicken	Group	Group	Spaghetti with Meat Sauce	Group	Group
Vegetable and Fruit						
Bread and Bread Alternate						
Milk						
Other Foods						

	WEDNESDAY			THURSDAY		
Meat and Meat Alternate	Sliced Turkey on Roll or Ham and Cheese on Roll			Meat/Bean Burrito with Cheese or Tuna Salad		
Vegetable and Fruit						
Bread and Bread Alternate						
Milk						
Other Foods						

	FRIDAY		
Meat and Meat Alternate	Hamburger or Fishburger		
Vegetable and Fruit			
Bread and Bread Alternate			
Milk			
Other Foods			

Step

1

Menu Planning Worksheet

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2

Choose the Vegetables and Fruits

Include two or more servings of vegetables and/or fruits.

- Plan to use vegetables raw or cooked — alone or combined in salads, casseroles, and stews.

- Plan to use fruits raw or cooked — alone or combined in salads, fruit cups, and desserts.

- Plan vegetables and fruits that complement each main dish and each other. Use a different combination of two or more servings of vegetables and fruits each day. Include all forms of vegetables and fruits: fresh, canned, frozen, and dried.

- Include vegetables and fruits that are sources of:

Vitamin A.....	at least twice a week
Vitamin C	at least two or three times a week
Iron	as frequently as possible

- See Chart 2, Foods for School Lunches and Breakfasts (chapter 1) for a list of vegetables and fruits that are sources of vitamins A and C and iron.

- Include fresh vegetables and fruits frequently.

- Plan a reasonable and appropriate serving size. Plan a larger serving of fruits and popular vegetables and a smaller serving of new and less accepted vegetables.

- Plan for variety. Try to introduce students to new vegetables and fruits as often as possible.

- In "offer versus serve" situations, any two or more servings of vegetables and/or fruit must at least equal the quantity specified in the meal requirements. Therefore, you may be wise to standardize the serving size to two 3/8-cup servings or two 1/2-cup servings to assure that two servings will meet the full requirement.

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Lunch Pattern	MONDAY	PORTION SIZE		TUESDAY	PORTION SIZE	
		Group	Group		Group	Group
Meat and Meat Alternate	Oven Fried Chicken			Spaghetti with Meat Sauce		
Vegetable and Fruit	Green Peas or Broccoli Spears Fresh Fruit Cup			Green Salad Cherry a Peach Cobbler or Fresh Fruit		
Bread and Bread Alternate						
Milk						
Other Foods						
	WEDNESDAY			**THURSDAY**		
Meat and Meat Alternate	Sliced Turkey on Roll or Ham and Cheese on Roll			Meat/Bean Burrito with Cheese or Tuna Salad		
Vegetable and Fruit	Lettuce on Sandwich Vegetable Sticks French Fries			Lettuce, Tomato and Onion Cup with Green Pepper Bits Mixed Vegetables Strawberry Shortcake a Fresh Fruit		
Bread and Bread Alternate						
Milk						
Other Foods						
	FRIDAY					
Meat and Meat Alternate	Hamburger a Fishburger					
Vegetable and Fruit	Cole Slaw a Sliced Tomatoes and Lettuce Green Beans a Lima Beans Fresh Orange Half					
Bread and Bread Alternate						
Milk						
Other Foods						

Step

2

Menu Planning Worksheet

3

Select a Variety of Bread/Bread Alternates

- Use one or more portions of whole-grain or enriched bread or bread alternates which will complement the main dish and other items in each lunch.

- Plan to use a different kind of bread or bread alternate each day.

- Use whole-grain foods often.

- Include school-made loaf breads or hot breads, such as rolls, sandwich buns, muffins, biscuits, or cornbread as often as possible. Also include a variety of enriched rice, macaroni, noodles, and other pasta products.

- Refer to the *Food Buying Guide for Child Nutrition Programs* for guidance on determining the kinds and quantity of bread-type items that may be used to meet the bread requirement. Remember that the quantities needed for a serving of bread or bread alternate are important to you in menu planning.

Lunch Pattern	MONDAY	PORTION SIZE		TUESDAY	PORTION SIZE	
		Group	Group		Group	Group
Meat and Meat Alternate	Oven Fried Chicken			Spaghetti with Meat Sauce		
Vegetable and Fruit	Green Peas or Broccoli Spears Fresh Fruit Cup			Green Salad Cherry or Peach Cobbler or Fresh Fruit		
Bread and Bread Alternate	Rice Pilaf Hot Roll			Italian Bread (Spaghetti)		
Milk						
Other Foods						
	WEDNESDAY			**THURSDAY**		
Meat and Meat Alternate	Sliced Turkey on Roll or Ham and Cheese on Roll			Meat/Bean Burrito with Cheese or Tuna Salad		
Vegetable and Fruit	Lettuce on Sandwich Vegetable Sticks French Fries			Lettuce, Tomato and Onion Cup with Green Pepper Bits Mixed Vegetables Strawberry Shortcake or Fresh Fruit		
Bread and Bread Alternate	(Hard Roll)			(Tortilla) Whole Wheat Roll		
Milk						
Other Foods						
	FRIDAY					
Meat and Meat Alternate	Hamburger or Fishburger					
Vegetable and Fruit	Cole Slaw or Sliced Tomatoes and Lettuce Green Beans or Lima Beans Fresh Orange Half					
Bread and Bread Alternate	(Hamburger Roll)					
Milk						
Other Foods						

Step

3

Menu Planning Worksheet

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4

Include Milk

- Plan to serve fluid milk as a beverage. Offer an unflavored form of fluid lowfat milk, skim milk, or buttermilk. Any form of fluid flavored milk or whole milk may be offered as a beverage choice. Schools are not **required** to offer a choice if lowfat milk, skim milk, or buttermilk is served.

- Remember that nonfat dry milk and fluid milk used in food preparation may not be counted toward meeting the milk requirement.

5

Include Other Foods as Needed

- Include other foods that make a contribution to the meal to help meet the students' needs for calories and other nutrients, especially iron.

- Use heavier foods with the lighter lunches. On the other hand, serve light desserts with the more hearty lunches.

- Plan a choice of desserts, including a low-calorie item such as a piece of fresh fruit when heavy desserts are offered.

- Limit the use of sweet desserts such as cakes and cookies, especially cakes with frostings and rich desserts. Whenever possible, replace these items with fresh or canned fruits or try a cool treat of frozen fruit juice. When cakes or cookies are planned, consider such items as oatmeal cookies, molasses cookies, peanut butter cookies, applesauce cake, and carrot cake. When you offer a sweet dessert, plan smaller portions as a choice, if possible. Consider leaving the frosting off the cake or spread it thinly.

- Make foods that do not contribute to meeting a specific meal requirement optional. You should not require students to take these foods.

[illegible]

Lunch Pattern	MONDAY	PORTION SIZE		TUESDAY	PORTION SIZE	
		Group	Group		Group	Group
Meat and Meat Alternate	Oven Fried Chicken			Spaghetti with Meat Sauce		
Vegetable and Fruit	Green Peas or Broccoli Spears Fresh Fruit Cup			Green Salad Cherry a Peach Cobbler or Fresh Fruit		
Bread and Bread Alternate	Rice Pilaf Hot Roll			Italian Bread (Spaghetti)		
Milk	Choice of Milk			Choice of Milk		
Other Foods	Peanut Butter Cookie Butter			Salad Dressing, Butter Parmesan Cheese Cobbler Crust		
	WEDNESDAY			**THURSDAY**		
Meat and Meat Alternate	Sliced Turkey on Roll or Ham and Cheese on Roll			Meat/Bean Burrito with Cheese or Tuna Salad		
Vegetable and Fruit	Lettuce on Sandwich Vegetable Sticks French Fries			Lettuce, Tomato and Onion Corn with Green Pepper Bits or Mixed Vegetables Strawberry Shortcake a Fresh Fruit		
Bread and Bread Alternate	(Hard Roll)			(Tortilla) or Whole Wheat Roll		
Milk	Choice of Milk			Choice of Milk		
Other Foods	Catsup/Mayonnaise/Mustard Molasses Cookie			(Shortcake) Whipped Topping		
	FRIDAY					
Meat and Meat Alternate	Hamburger a Fishburger					
Vegetable and Fruit	Cole Slaw a Sliced Tomatoes and Lettuce Green Beans a Lima Beans Fresh Orange Half					
Bread and Bread Alternate	(Hamburger Roll)					
Milk	Choice of Milk					
Other Foods	Catsup/Mayonnaise/Tartar Sauce Peanut Raisin Mix					

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Step 4,5

Menu Planning Worksheet

Menu Evaluation

After you have planned the menu items and serving sizes for the various age/grade groups, use the checklist below.

		Yes	No
Requirements	• Have you included all components of the meal?	___	___
	• Have you planned serving sizes that provide the minimum required quantity of:		
	Meat or meat alternate?	___	___
	Two or more vegetables and/or fruits?	___	___
	Whole-grain or enriched bread or bread alternate?	___	___
	Fluid milk?	___	___
	• Have you included an unflavored form of fluid lowfat milk, skim milk, or buttermilk?	___	___
Recommendations	• Have you included a vitamin A vegetable or fruit at least twice a week?	___	___
	• Have you included a vitamin C vegetable or fruit at least 2 or 3 times a week?	___	___
	• Have you included several foods for iron each day?	___	___
	• Have you kept concentrated sweets and sugars to a minimum?	___	___
	• Have you kept calories from fat to a moderate level?	___	___
	• Have you kept foods high in salt to a moderate level?	___	___
	• If you have not planned choices, have you avoided serving any one meat alternate or form of meat more than 3 times per week?	___	___
Good Menu Planning Practices	• Do your lunches include a good balance of:		
	Color—in the foods themselves and in garnishes?	___	___
	Texture—soft and crisp or firm textured foods?	___	___
	—starchy and other type foods?	___	___
	Shape—different sized pieces and shapes of foods?	___	___
	Flavor—bland and tart or mild and strong flavored foods?	___	___
	Temperature—hot and cold foods?	___	___
	• Have you included whole-grain bread and cereal products?	___	___
	• Have you included fresh fruits and vegetables?	___	___

		Yes	No
	• Are most of the foods and food combinations ones your students have learned to eat?	____	____
	• Have you considered students' cultural, ethnic, and religious food practices?	____	____
	• Have you included a popular food in a lunch which includes a "new" or less popular food?	____	____
	• Do you have a plan to introduce new foods?	____	____
	• Have you planned festive foods for holidays, birthdays, and school activities?	____	____
	• Have you included different kinds or forms of foods (fresh, canned, frozen, dried)?	____	____
	• Have you included seasonal foods?	____	____
	• Have you included less familiar foods or new methods of preparation occasionally?	____	____
Good Management Practices	• Have you planned lunches so that some preparation can be done ahead?	____	____
	• Have you balanced the workload among employees from day to day?	____	____
	• Is oven, surface-cooking, or steam-cooking space adequate for items planned for each lunch?	____	____
	• Are proper-sized cooking and serving utensils available?	____	____
	• Can you easily serve foods planned for each meal?	____	____
	• Will foods "fit" on dishes or compartment trays?	____	____
	• Have you taken advantage of USDA-donated foods?	____	____
	• Have you used foods in inventory to the extent possible?	____	____
	• Do high- and low-cost foods and meals balance?	____	____

Food Production Record

After planning menus with the foods and portion sizes needed to meet meal requirements, you are ready to prepare a food production record for each day's menu. This record is your planning tool for the food preparation stage of the meal. It will give those who will prepare the meal the information they need to know to meet meal requirements. It is your record that the meals indeed meet meal requirements and are thus reimbursable.

The food production record also becomes a written daily history of the number of portions planned and prepared and served of each menu item. The record can also be used to aid in forecasting quantities of food to plan for in future menus.

A food production record may be very simple or very detailed. However, at a minimum, it should contain the following information for each daily menu:

- The menu
- Foods used to meet requirements
- Quantity of foods used
- Allowable servings per unit
- Number of planned and prepared portions
- Size of planned and served portions
- Number of leftover portions

Depending on the use you want to make of your record, you may want to add additional information, such as precosting and postcosting, recipe source, and comments about acceptance of the foods. But, regardless of the degree of complexity, the purposes of the food production record are twofold: 1) to direct production and 2) to record production information.

As a written record, it is especially valuable for planning in "offer versus serve" situations. Forecasting how much to prepare when several choices are available, or when the number you will serve fluctuates, is at best an "educated guess." However, good records of how many portions of each food item were served in the past can help eliminate some of the guesswork.

Keep in mind while filling out the form to direct food production that you will only partially complete the form. It will be completed on the day the meal is prepared, thus verifying the number of portions prepared and left over. It then becomes a valuable record of quantities of foods actually used to prepare reimbursable meals.

How to Vary Portion Sizes for Various Age/Grade Groups

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U.S. Department of Agriculture

Chapter 3. HOW TO VARY PORTIONS FOR VARIOUS AGE/GRADE GROUPS

Determining Portion Sizes

Schools and institutions are *encouraged* to serve quantities of foods based on students' nutritional needs, which vary with age. Chart 1 in chapter 1 specifies such quantities of foods for various age/grade groups.

In Determining Which Portion Sizes Are Most Appropriate to Serve:

- Review the ages and grade levels of the students in your school. Remember that the ages of some students may not necessarily correspond to the grades as outlined in chart 1.

- Determine the *predominant* age/grade groups of students in your school. For instance, the predominant ages in a junior high school (grades 7-9) may be 12, 13, and 14, although there may be a few 11-year-olds. Therefore, Group IV and V portion sizes would be the most appropriate to serve, providing the students the choice of the minimum portions or recommended larger portions. In an elementary school with grades K-4, the predominant ages would be 5, 6, 7, 8, and 9. Thus, the school should serve Group III and Group IV portion sizes, if possible. If not, Group IV portion sizes would be necessary.

If you elect to vary portion sizes, see the following chart suggesting meal patterns appropriate for various age/grade group combinations.

Determining Meal Patterns to Serve*

Ages/Grades in School	*Suggested Meal Patterns*
Preschool (ages 1-4)	Groups I and II
Elementary school Grades K-3 (ages 5-8)	Group III
Elementary school Grades K-4 (ages 5-9)	Groups III and IV
Elementary school Grades K-6 (ages 5-11)	Groups III and IV
Middle school Grades 6-8 (ages 11-13)	Groups IV and V
Elementary/junior high school Grades K-8 (ages 5-13)	Groups III, IV, and V
Junior/senior high school Grades 7-12 (age 12 and over)	Groups IV and V

*Refer to chart 1, School Lunch Patterns for Various Age/Grade Groups, in chapter 1.

Planning Lunches for Preschool Children, Ages 1, 2, 3, and 4 (Groups I and II)

Children of this age group like simply prepared and very lightly seasoned foods which they can easily recognize. Bite-sized pieces and finger foods are easy for the preschool child to manage. You may cut meat into small pieces, vegetables into strips or chunks, and fruits into small wedges or sections. Offer children a variety of foods, gradually introducing each new food.

Keep In Mind the Following:

Minimum Quantities for Preschool Children

	Preschool ages 1-2 (Group I)	Preschool ages 3-4 (Group II)
Meat or Meat Alternate		
A serving of one of the following or a combination to give an equivalent quantity:		
Lean meat, poultry, or fish (edible portion as served)	1 oz	1½ oz
Cheese	1 oz	1½ oz
Large egg	½	¾
Cooked dry beans or peas	¼ cup	⅜ cup
Peanut butter	2 Tbsp	3 Tbsp
Vegetable and/or Fruit		
Two or more servings of vegetables or fruit or both to total	½ cup	½ cup
Bread or Bread Alternate		
Servings of bread and bread alternate	5 per week	8 per week

A serving is:

- 1 slice of whole-grain or enriched bread
- A biscuit, roll, muffin, etc., whole-grain or enriched
- ½ cup of cooked whole-grain or enriched rice, macaroni, noodles, other whole-grain or enriched pasta products, or other cereal grains such as bulgur or corn grits
- A combination of any of the above.

Milk		
A serving of fluid milk	¾ cup (6 fl oz)	¾ cup (6 fl oz)

At least one of the following forms of milk must be offered:
Unflavored lowfat milk
Unflavored skim milk
Unflavored buttermilk

• The quantities of foods for Groups I and II are **MINIMUMS.** Schools **CANNOT serve LESS** than these **MINIMUM** quantities to preschool children.

• Since children of this age group can only manage small quantities of food at one time, schools serving preschool children are *encouraged* to offer lunch at two serving periods which, when combined, will meet the total minimum quantities. For example, at 10 a.m. you could serve juice and toast, and the meat, vegetable, and milk at noon.

Pointers to Follow for Serving Smaller Sizes

Smaller servings of the meat/meat alternate and the vegetable/fruit components may require that you adjust recipe portions and redevelop your purchase specifications.

Adjusting Recipe Portions

When using USDA *Quantity Recipes for Type A School Lunches* (1971), you will need to adjust portion sizes, as follows:

Meat/Meat Alternate

The recipes yield 100 2-ounce equivalent or 200 1-ounce portions of meat/meat alternate, or 133 1½-ounce portions.

Vegetables/Fruits

The recipes are in 100 servings with some ¼-cup portions and some ½-cup portions. In the latter case when you cut the portion size to ¼ cup, the recipes will yield 200 ¼-cup portions for both Groups I and II.

Redeveloping Purchase Specifications

You may write purchase specifications for preportioned commercial meat products to provide a 1-ounce equivalent serving of meat/meat alternate for Group I and a 1½-ounce equivalent serving for Group II. Additionally, in your specifications, you can request smaller hamburger rolls and 6-ounce cartons of milk. Carefully evaluate the cost of specially portioned food items.

Planning Lunches for Students in Grades K-3, Ages 5, 6, 7, and 8 (Group III)

Children of this age group like plain foods which they can easily identify and which are simply prepared and lightly seasoned. Finger foods are particularly popular.

Keep In Mind the Following:

Minimum Quantities for Grades K-3, Ages 5-8 (Group III)

Meat or Meat Alternate

A serving of one of the following or a combination to give an equivalent quantity:	
Lean meat, poultry, or fish. (edible portion as served)	1-1/2 oz
Cheese	1-1/2 oz
Large egg	¾
Cooked dry beans or peas	⅜ cup
Peanut butter	3 Tbsp

Vegetable and/or Fruit

Two or more servings of vegetables or fruit, or both to total	1/2 cup

Bread or Bread Alternate

Servings of bread or bread alternate	8 per week

A serving is:
- 1 slice of whole-grain or enriched bread
- A biscuit, roll, muffin, etc., whole-grain or enriched
- 1/2 cup of cooked whole-grain or enriched rice, macaroni, noodles, other whole-grain or enriched pasta products, or other cereal grains such as bulgur or corn grits
- A combination of any of the above.

Milk

A serving of fluid milk	1/2 pint (8 fl oz)

At least one of the following forms of milk must be offered:
Unflavored lowfat milk
Unflavored skim milk
Unflavored buttermilk

• The quantities of foods specified for Group III are **MINIMUMS.** Schools **CANNOT** serve **LESS** than these **MINIMUM** quantities to students in grades K-3.

• On any given day, schools **MAY** elect to serve **MORE** than the **MINIMUM** quantities of foods specified for Group III. It may not be administratively feasible, for example, for a school with grades K-6 to serve two portion sizes for the two age/grade groups in the school. In this situation, the larger portions specified for Group IV (grades 4-12, age 9 and over) should be served to all students.

• Schools serving kindergarten students are *encouraged* to offer lunch at two serving periods which, when combined, will meet the total minimum quantities specified.

Pointers to Follow for Implementing Smaller Serving Sizes

Smaller servings of the meat/meat alternate and vegetable/fruit components may require that you adjust recipe portions and redevelop your purchase specifications.

Adjusting Recipe Portions

When using USDA *Quantity Recipes for Type A School Lunches* (1971), you will need to adjust portion sizes, as follows:

Meat/Meat Alternate

The recipes yield 100 2-ounce equivalent or 133 1½-ounce portions.

Vegetables/Fruits

The recipes are in 100 servings with some ¼-cup portions and some ½-cup portions. In the latter case when you cut the portion size to ¼ cup, the recipes will yield 200 ¼-cup portions.

Redeveloping Purchase Specifications

You may write purchase specifications for preportioned commercial meat products to provide a 1½-ounce equivalent serving of meat/meat alternate. Carefully evaluate the cost of specially portioned food items.

Planning Lunches for Students in Grades 4-6, Ages 9, 10 and 11 (Group IV)

Although students of this age group still tend to prefer plain foods, many will accept new foods when properly introduced and prepared in taste-tempting ways. Choices of items within the food components will encourage food consumption.

Keep in mind the following:

Minimum Quantities for Grades 4-6, Ages 9-11 (Group IV)

Meat or Meat Alternate

A serving of one of the following or combination to give an equivalent quantity:	
Lean meat, poultry, or fish (edible portion as served)	2 oz
Cheese	2 oz
Large egg	1
Cooked dry beans or peas	½ cup
Peanut butter	4 Tbsp

Vegetable and/or Fruit

Two or more servings of vegetables or fruit, or both to total	3/4 cup

Bread or Bread Alternate

Servings of bread or bread alternate	8 per week

A serving is:

- 1 slice of whole-grain or enriched bread
- A biscuit, roll, muffin, etc., whole-grain or enriched
- 1/2 cup of cooked whole-grain or enriched rice, macaroni, noodles, other whole-grain or enriched pasta products, or other cereal grains such as bulgur or corn grits
- A combination of any of the above.

Milk

A serving of fluid milk	1/2 pint (8 fl oz)

At least one of the following forms of milk must be offered:
Unflavored lowfat milk
Unflavored skim milk
Unflavored buttermilk

- The quantities of foods specified for Group IV are **MINIMUMS.** Schools **CANNOT** serve **LESS** than these **MINIMUM** quantities to students in grades 4-6.

- Since most quantity recipes for school food service, including *Quantity Recipes for Type A School Lunches* (1971), and your present purchase specifications already may be geared for the quantity requirements specified for Group IV, you will not need to adjust recipe portions or redevelop purchase specifications.

Planning Lunches for Students in Grades 7-12, Age 12 and Over (Group V)

Students of this age group, often conscious of their appearance, may be concerned about their weight, and hence the calories they consume. Fresh fruits and vegetables, salads, and special diet plates that are relatively low in calories but high in other nutrients are appealing to teenagers and help them meet their nutritional needs as well as their desire for weight control. Some teenagers, on the other hand, have greatly increasing appetites and an increasing requirement for calories. Heartier meals appeal to these teenagers, and they will consume much larger quantities of food than they did in previous years.

Keep in mind the following:

Minimum and Recommended Quantities for Grades 7-12, Age 12 and Over (Group V)

	Minimum Quantities	Recommended Quantities
Meat or Meat Alternate		
A serving of one of the following or combination to give an equivalent quantity:		
Lean meat, poultry, or fish (edible portion as served)	2 oz	3 oz
Cheese	2 oz	3 oz
Large egg	1	1½
Cooked dry beans or peas	½ cup	¾ cup
Peanut butter	4 Tbsp	6 Tbsp
Vegetable and/or Fruit		
Two or more servings of vegetables or fruit, or both to total	3/4 cup	3/4 cup
Bread or Bread Alternate		
Servings of bread or bread alternate	8 per week	10 per week

A serving is:
- 1 slice of whole-grain or enriched bread
- A biscuit, roll, muffin, etc., whole-grain or enriched
- 1/2 cup of cooked whole-grain or enriched rice, macaroni, noodles, other whole-grain or enriched pasta products, or other cereal grains such as bulgur or corn grits
- A combination of any of the above.

Milk		
A serving of fluid milk	1/2 pint (8 fl oz)	1/2 pint (8 fl oz)

At least one of the following forms of milk must be offered:
Unflavored lowfat milk
Unflavored skim milk
Unflavored buttermilk

• Note that **recommended** amounts are specified. Schools may at any time serve less than the recommended quantities so long as the quantities served are **NO LESS** than the **MINIMUMS** specified above (which are the same minimums as for Group IV). For instance, it may be desirable to serve **less** than **3 ounces** of meat/meat alternate, but **at least 2 ounces** must be served.

Pointers to Follow in Implementing Larger Serving Sizes

• Larger servings of the meat/meat alternate component and the number of bread/bread alternates served per week could be achieved through menu modification, recipe portion-size adjustment, and redevelopment of purchase specifications.

Menu Modification

To provide a 3-ounce serving of meat/meat alternate, complement planned menu items with acceptable meat/meat alternate items.

Examples: *Planned Menu Item*	*Amount of Meat/Meat Alternate Furnished*	*Additional Menu Item*	*Serving Size*
Commercial beef patty	2 oz	Slice of cheese	1 oz
Meat taco(s)	2 oz	Refried beans	¼ cup (1 oz equivalent)
Fishburger	2 oz	Slice of cheese	1 oz

Increase the serving size for bread/bread alternates, such as spaghetti and noodles—plan ¾-cup servings instead of ½-cup, or supplement the meat with another bread or bread alternate, such as crackers with soup and sandwich, or a slice of french bread with a pasta dish.

Adjusting Recipe Portions

When using USDA *Quantity Recipes for Type A School Lunches* (1971), you will need to adjust portions for the meat/meat alternate. The recipes yield 100 2-ounce equivalent or 66 3-ounce portions.

Redeveloping Purchase Specifications

You may write purchase specifications for preportioned commercial meat products to provide a 3-ounce equivalent serving of meat/meat alternate. You may want to adjust bread specifications to provide a larger portion. Refer to the *Food Buying Guide for Child Nutrition Programs* (1983) for bread serving equivalents. Carefully evaluate the cost of specially portioned food items.

Cost Considerations

Serving larger portions to students in Group V will usually increase costs. Listed below are some pointers to assist in offsetting these higher costs.

• If feasible and consistent with the local school district policy, charge higher prices for paid lunches in high schools to reflect the cost of the larger serving sizes.

• Two sizes of lunches may be served. Where feasible, offer two portion sizes—one the recommended and the other the minimum students can elect.

Planning Lunches for More Than One Age/Grade Group in a School

Many schools or institutions have students in more than one age/grade group. If they elect to vary portion sizes, they will need to serve two or more meal patterns as outlined in chart 1 in chapter 1.

Suggested Pointers for Determining How Much to Prepare and/or Serve:

1. Advance sale of meal tickets by grade level may assist in planning production needs. Color-coding the tickets by age/grade group will make it easier to identify the portion size students should be served.
2. If feasible, arrange for students to enter the cafeteria for lunch by grade level.
3. A management and recordkeeping system, including detailed food production records with how many meals and menu items were served previously by age/grade group, may assist you in planning future needs when the menu is repeated at a later date.

Sample Menus for 2 Weeks for Three Age Groups (III, IV, and V)

The sample menus on the following pages illustrate the concept of how the menu can incorporate the principles of good menu planning as well as be adaptable to the three school age groups.

Since menus often reflect the preferences and experiences of the menu planner, these menus were developed not to show acceptable foods for all regions, localities, and ethnic groups, but rather to show the concepts in menu planning:

• A choice of food items is frequently planned for students in all three groups.
• Good menu planning principles for color, flavor, texture, and temperature are followed.
• A variety of fresh fruits and whole-grain breads are planned in the lunches.
• USDA-donated foods are used wisely.

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Monday		Group III	Group IV	Group V
Meat and Meat Alternate	Oven Fried Chicken	1 thigh *1-1/2 oz**	1 drumstick & 1 wing *2 oz*	1 drumstick & 1 thigh or 1/2 breast *3 oz*
Vegetable and Fruit	Green Peas or Broccoli Spears Fresh Fruit Cup	*1/4 cup* *1/4 cup* *1/4 cup*	*3/8 cup* *3/8 cup* *3/8 cup*	*3/8 cup* *3/8 cup* *3/8 cup*
Bread and Bread Alternate	Hot Roll Rice Pilaf	1 small roll (1.1 oz) *1 serving* 1/4 cup *1/2 serving*	1 small roll (1.1 oz) *1 serving* 1/4 cup *1/2 serving*	1 small roll (1.1 oz) *1 serving* 1/2 cup *1/2 serving*
Milk	Lowfat or Whole	*1/2 pt*	*1/2 pt*	*1/2 pt*
Other Foods	Peanut Butter Cookie Butter	1 cookie	1 cookie	1 cookie

Tuesday	Group III	Group IV	Group V
Spaghetti with Meat Sauce	1/4 cup *1-1/2 oz*	1/3 cup *2 oz*	1/2 cup *3 oz*
Green Salad	*1/4 cup*	*3/8 cup*	*3/8 cup*
Cherry Cobbler or	2" x 3-3/4" *1/4 cup*	3" x 4" *3/8 cup*	3" x 4" *3/8 cup*
Peach Cobbler or	2" x 3-3/4" *1/4 cup*	3" x 4" *3/8 cup*	3" x 4" *3/8 cup*
Fresh Fruit	*1/4 cup*	*3/8 cup*	*3/8 cup*
Italian Bread	1 slice (1 oz) *1 serving*	1 slice (1 oz) *1 serving*	1 slice (1 oz) *1 serving*
(Spaghetti)	1/2 cup *1 serving*	1/2 cup *1 serving*	3/4 cup *1-1/2 serv*
Lowfat or Whole	*1/2 pt*	*1/2 pt*	*1/2 pt*
Choice of Salad Dressing Parmesan Cheese Cobbler Crust Butter			

Wednesday	Group III	Group IV	Group V
Sliced Turkey on Roll Turkey or Ham and Cheese on Roll Ham Cheese	*1-1/2 oz* *3/4 oz* *3/4 oz*	*2 oz* *1 oz* *1 oz*	*3 oz* *1-1/2 oz* *1-1/2 oz*
Lettuce on Sandwich	*1/8 cup*	*1/8 cup*	*1/8 cup*
Vegetable Sticks	*1/8 cup*	*1/8 cup*	*1/8 cup*
French Fries	*1/4 cup*	*1/2 cup*	*1/2 cup*
Roll (Hard Roll)	1 large roll (2 oz) *2 servings*	1 large roll (2 oz) *2 servings*	1 large roll (2 oz) *2 servings*
Lowfat or Whole	*1/2 pt*	*1/2 pt*	*1/2 pt*
Catsup/Mayonnaise/ Mustard Molasses Cookie	1 cookie	1 cookie	1 cookie

Thursday		Group III	Group IV	Group V
Meat and Meat Alternate	Burrito Meat, Beans & Cheese or Tuna Salad	1 burrito *1-1/2 oz* 3/8 cup *1-1/2 oz*	1 burrito *2 oz* 1/2 cup *2 oz*	2 burritos *3 oz* 3/4 cup *3 oz*
Vegetable and Fruit	Lettuce, Tomato & Onion Corn with Green Pepper Bits or Mixed Vegetables Strawberry Shortcake Strawberries or Fresh Fruit	----- *1/4 cup* *1/4 cup* *1/4 cup* *1/4 cup*	*1/8 cup* *3/8 cup* *3/8 cup* *1/4 cup* *1/4 cup*	*1/8 cup* *3/8 cup* *3/8 cup* *1/4 cup* *1/4 cup*
Bread and Bread Alternate	(Tortilla) or Whole-Grain Roll	1 tortilla (1.1 oz) *1 serving* 1 small roll (1.1 oz) *1 serving*	1 tortilla (1.1 oz) *1 serving* 1 small roll (1.1 oz) *1 serving*	2 tortillas (1.1 oz ea) *2 servings* 2 small rolls (1.1 oz ea) *2 servings*
Milk	Lowfat or Whole	1/2 pt	1/2 pt	1/2 pt
Other Foods	(Shortcake) Whipped Topping			

Friday	Group III	Group IV	Group V
Hamburger or Fishburger	*1-1/2 oz* 3 oz portion	*2 oz* 4 oz portion	*3 oz* 4 oz portion
Cheese	*1.6 oz* -----	*2.2 oz* -----	*2.2 oz* *1 oz*
Sliced Tomato & Lettuce or Carrot and Cabbage Slaw	----- -----	*1/4 cup* *1/4 cup*	*1/4 cup* *1/4 cup*
Green Beans or Lima Beans	*1/4 cup* *1/4 cup*	*1/4 cup* *1/4 cup*	*1/4 cup* *1/4 cup*
Fresh Orange Half	*1/4 cup*	*1/4 cup*	*1/4 cup*
(Hamburger Roll)	small roll (1.4 oz) *1-1/2 servings*	med roll (1.8 oz) *2 servings*	med roll (1.8 oz) *2 servings*
Lowfat or Whole	1/2 pt	1/2 pt	1/2 pt
Catsup/Mayonnaise/ Tartar Sauce Peanut Raisin Mix			

Sample Lunch Menus

for 2 Weeks for Three Age Groups (Group III-V)

**Italics indicate contribution to meal requirements*

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Monday		Group III	Group IV	Group V
Meat and Meat Alternate	Grilled Cheese Sand			
	Cheese	*1-1/2 oz*	*1-1/2 oz*	*1-1/2 oz*
	+ Ham or	—	—	*1 oz*
	Chicken Salad on Roll			
	Chicken Salad	3/8 cup	3/8 cup	2/3 cup
		1-1/2 oz	*1-1/2 oz*	*2-1/2 oz*
	(Beef in Soup)	—	*1/2 oz*	*1/2 oz*
Vegetable and Fruit	School made Vegetable Soup	1/2 cup	—	—
		1/4 cup		
	School made Vegetable Beef Soup	—	1 cup	1 cup
			3/8 cup	*3/8 cup*
	Fresh Fruit	*1/4 cup*	*3/8 cup*	*3/8 cup*
Bread and Bread Alternate	(Bread) or	*2 slices*	*2 slices*	*2 slices*
	(Roll)	1 large roll (2 oz)	1 large roll (2 oz)	1 large roll (2 oz)
		2 servings	*2 servings*	*2 servings*
Milk	Lowfat or Chocolate	*1/2 pt*	*1/2 pt*	*1/2 pt*
Other Foods				

Tuesday	Group III	Group IV	Group V
Lasagna or	2-1/2" x 3"	2" x 3-3/4"	3" x 4"
	1-1/2 oz	*2 oz*	*3 oz*
Chuck Wagon Steak with Gravy	1 steak	1 steak	1 steak
	1-1/2 oz	*2 oz*	*3 oz*
Mashed Potatoes or	*1/4 cup*	*3/8 cup*	*3/8 cup*
Green Beans	*1/4 cup*	*3/8 cup*	*3/8 cup*
Mixed Fruit or	*1/4 cup*	*3/8 cup*	*3/8 cup*
Fresh Plums	*1/4 cup*	*3/8 cup*	*3/8 cup*
(Lasagna Noodles) and	3/8 cup	1/2 cup	3/4 cup
	3/4 serving	*1 serving*	*1-1/2 servings*
French Bread or Whole Wheat Roll	*1 slice*	*1 slice*	*1 slice*
	1 large roll (2 oz)	1 large roll (2 oz)	1 large roll (2 oz)
	2 servings	*2 servings*	*2 servings*
Lowfat or Whole	*1/2 pt*	*1/2 pt*	*1/2 pt*
(Gravy)			
Butter			

Wednesday	Group III	Group IV	Group V
Barbecued Pork on Bun			
Barbecued Pork or	3 Tbsp	3 Tbsp	3 Tbsp
	1 oz	*1 oz*	*1 oz*
Tuna Salad on Bun			
Tuna Salad	1/4 cup	1/4 cup	1/4 cup
	1 oz	*1 oz*	*1 oz*
Black-Eyed Peas or	*1/8 cup*	*1/4 cup*	*1/4 cup*
Baked Beans	*1/8 cup*	*1/4 cup*	*1/4 cup*
Coleslaw or	*1/4 cup*	*3/8 cup*	*3/8 cup*
Collard Greens or	*1/4 cup*	*3/8 cup*	*3/8 cup*
Chilled Grape Juice	*3/8 cup*	*3/8 cup*	*3/8 cup*
Melon or Berries in Season	*1/4 cup*	*3/8 cup*	*3/8 cup*
(Bun)	med bun (1.8 oz)	med bun (1.8 oz)	med bun (1.8 oz)
	2 servings	*2 servings*	*2 servings*
Skim or Chocolate	*1/2 pt*	*1/2 pt*	*1/2 pt*
Catsup/Mustard			

Thursday		Group III	Group IV	Group V
Meat and Meat Alternate	Meat Ball Sub Sand			
	Meat Ball or	*1-1/2 oz*	*1-1/2 oz*	*2 oz*
	Baked Fish	3 oz portion	3 oz portion	4 oz portion
		1-1/2 oz	*1-1/2 oz*	*2 oz*
	Peanut Butter (on celery)	—	*1 Tbsp*	*2 Tbsp*
Vegetable and Fruit	Celery	—	2 sticks	2 sticks
			1/8 cup	*1/8 cup*
	Potato Rounds or	*1/4 cup*	*3/8 cup*	*3/8 cup*
	Peas and Carrots	*1/4 cup*	*3/8 cup*	*3/8 cup*
	Chilled Fruit or	*1/4 cup*	*1/4 cup*	*1/4 cup*
	Lettuce, Tomato & Onion	*1/4 cup*	*1/4 cup*	*1/4 cup*
Bread and Bread Alternate	(Sub Roll) or	1/2 roll	1/2 roll	1 roll
		1-1/4 servings	*1-1/4 servings*	*2-1/2 servings*
	Roll	1 small roll (1.1 oz)	1 small roll (1.1 oz)	1 large roll (2 oz)
		1 serving	*1 serving*	*2 servings*
Milk	Lowfat or Whole	*1/2 pt*	*1/2 pt*	*1/2 pt*
Other Foods	Tartar Sauce/Catsup			
	Butter			

Friday	Group III	Group IV	Group V
Cheese Pizza or	3-1/4" x 5"	3-1/4" x 5"	4-1/4" x 6"
	1-1/2 oz	*2 oz*	*3 oz*
Cheese & Sausage Pizza			
Tossed Vegetable Salad	*1/4 cup*	*3/8 cup*	*3/8 cup*
Cranberry-Apple Crisp or	2" x 3-3/4"	3" x 4"	3" x 4"
	1/4 cup	*3/8 cup*	*3/8 cup*
Apricot Crisp or	2" x 3-3/4"	3" x 4"	3" x 4"
	1/4 cup	*3/8 cup*	*3/8 cup*
Applesauce	*1/4 cup*	*3/8 cup*	*3/8 cup*
(Pizza Crust)	*1 serving*	*1 serving*	*1-1/2 servings*
Skim or Whole or Buttermilk	*1/2 pt*	*1/2 pt*	*1/2 pt*
Choice of Dressing			
Crust on Cobbler			

Sample Lunch Menus

for 2 Weeks for Three Age Groups (Group III-V)

*Italics indicate contribution to meal requirements

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Planning Breakfasts

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Background

Since its inception in 1966, the School Breakfast Program has grown to serve a morning meal to an average of over 3 million students each day. The value of this program is that it provides a breakfast to students who do not eat breakfast at home. A student who has eaten breakfast is more alert and less fatigued, and is thought to have a better chance of doing well in school. Also, there are fewer discipline problems among some students who start the day with a good breakfast.

School breakfasts provide a good start toward meeting a child's daily nutritional needs of food energy, protein, vitamins, and minerals. The breakfast meal pattern is a simple, easy-to-follow guide in three components.

Breakfast Meal Requirements

Components	Minimum Required Quantities
Fruit or Vegetable	
Fruit or Vegetable or Fruit Juice or Vegetable Juice	1/2 cup
Bread or Bread Alternate	
One of the following or combination to give an equivalent quantity	1 serving
• A serving (1 slice) of whole grain or enriched bread	
• A serving of biscuits, rolls, muffins, etc., whole-grain or enriched	
• A serving (3/4 cup or 1 ounce, whichever is less) of whole-grain or enriched or fortified cereal	
Fluid Milk	
As a beverage or on cereal or both	1/2 pint

Recommendations

To help meet children's nutritional needs, breakfast should also contain as often as possible:

Meat or meat alternate—a 1-ounce serving (edible portion as served) of meat, poultry, or fish; or 1 ounce of cheese; or 1 egg; or 2 tablespoons of peanut butter; or an equivalent amount of any combination of these foods.

Also, plan to include:

- Vitamin C foods frequently.
- Foods for iron each day.

Planning Guidelines

The general principles of menu planning discussed in chapter 2 apply when planning breakfasts. Planning appetizing breakfast menus that students will enjoy requires originality and imagination. You should try to plan breakfasts that consider students' regional, cultural, and personal food preferences. Be sure to include well-liked and familiar foods. Offer "new" and less popular ones as choices at first until they have higher acceptability. Plan for contrast in texture, flavor, size, and shape of foods applying the principles of good menu planning. For example:

Fruits and Vegetables You can use fresh, canned, frozen, and dried fruits interchangeably. Try combining fruits with cereal for variety.

Bread and Bread Alternates Bread offers many different menu ideas. Use a variety of hot breads, such as cornbread, and different kinds of muffins and biscuits. Or you might try breakfast rolls made with bulgur, rolled wheat, or oats. Sandwiches (open-faced or closed), pancakes, waffles, and french toast are often well accepted.

Cereals can give you a light or hearty breakfast and require little labor. You can serve cereals hot or use prepackaged preportioned dry cereals, including wheat, corn, rice, and oats.

Meat and Meat Alternates Use a variety of meat or meat alternates—eggs, sausage, canned meat, ground beef, ham, cheese, peanut butter, fish, or poultry. Alternate egg dishes with other main dishes. Serve the egg alone or in combination with different meats or cheese. Look for variety in preparing eggs—scrambled, hard-cooked, soft-cooked, poached, or in omelets or french toast.

Keep in mind the age groups you are serving. The way food is served to young children will affect whether or not it is eaten. For instance, it may be necessary to serve hard-cooked eggs peeled and cut in halves, whereas with older students hard-cooked eggs can be served in the shell. With smaller children, serve finger sandwiches, apple wedges, sectioned oranges and grapefruits, and meat cut into bite-sized pieces. Serve small portions of additional foods. Untraditional foods at breakfast may make breakfast more appealing to students in the upper grades. Since appetites may vary greatly among students, you may wish to consider two different breakfast menus—a "Hearty Breakfast" and a lighter "Eye Opener". For example:

Hearty Breakfast	*Eye Opener*
Scrambled Eggs	Dry Cereal
Cinnamon Toast	Fresh Fruit
Fresh Fruit	Milk
Milk	

Breakfast Pattern	Monday	Portion	Tuesday	Portion	Wednesday	Portion	Thursday	Portion	Friday	Portion
Fruit or Vegetable or Fruit Juice or Vegetable Juice	Pineapple Juice	½ cup	Orange Quarters	½ cup	Grapefruit Juice	½ cup	Orange Juice	½ cup	Fruit Cup (banana, orange, pineapple chunks)	½ cup
Bread or Bread alternate	Choice of Ready-to-Eat Cereals	¾ cup (1 oz)	Raisin Bread Toast	1 sl	Blueberry Waffle with Syrup	1	Cheese Pizza	1 sl	Toast	1 sl
Milk	Milk	½ pt	Milk	½ pt	Milk	½ pt	Milk	½ pt	Milk	½ pt
Other			Cheese Cubes	1 oz			Cheese on Pizza	1 oz	Deviled Egg	1 egg
Fruit or Vegetable or Fruit Juice or Vegetable Juice	Sliced Pears	½ cup	Banana	1 sm	Orange Juice	½ cup	Baked Apple	1 med	Orange Juice	1 cup
Bread or Bread alternate	Hot Bagel	1	Cornflakes	¾ cup	French Toast with Honey	1 sl	Cheese Toast	1 sl	Toast	1 sl
Milk	Milk	½ pt	Milk	½ pt	Milk	½ pt	Milk	½ pt	Milk	½ pt
Other	Cream Cheese	1 oz					Cheese for Toast	1 oz	Creamed Chipped Beef	¼ cup
Fruit or Vegetable or Fruit Juice or Vegetable Juice	Purple Plums	½ cup	Orange Juice	½ cup	School-made Vegetable Soup	1 cup	Orange Sections	½ cup	Orange & Grapefruit Sections	½ cup
Bread or Bread alternate	English Muffin with Jam	1	Whole wheat toast	1 sl	Cinnamon Toast	1 sl	Biscuit	1	Date Muffin	1
Milk	Milk	½ pt	Milk	½ pt	Milk	½ pt	Milk	½ pt	Milk	½ pt
Other			Hard-Cooked Egg Crisp Bacon	1 egg 1 sl			Grilled Ham Slice	1 oz		
Fruit or Vegetable or Fruit Juice or Vegetable Juice	Raw or Cooked Apple Wedges	½ cup	Fruit Cocktail	½ cup	Apple Juice	½ cup	Pineapple Juice	½ cup	Tomato Juice	½ cup
Bread or Bread alternate	Bread	1 sl	Hot Oatmeal	¾ cup	Corn Grits	¾ cup	Whole wheat Toast	1 sl	Pancakes with syrup	1-2
Milk	Milk	½ pt	Milk	½ pt	Milk	½ pt	Milk	½ pt	Milk	½ pt
Other	Egg for Salad on Sandwich	½ egg			Beef Pattie	1 oz	Scrambled Egg Hash Brown Potatoes	1 egg ½ cup		

Breakfast Sample Menus

Coordinating Breakfast and Lunch Menus

When you are planning the breakfast menu, it is also important to consider the lunch menu that has been planned for the day.

- Avoid repeating at lunch the same food served at breakfast. For example, don't serve orange juice at breakfast and again at lunch.
- Be sure the equipment you use for the preparation of breakfast will not interfere with what you need to prepare for lunch.
- Schedule personnel carefully so they can be effective.

Sample Breakfast and Lunch Menus

The following are samples of breakfast and lunch menus planned for a week's time. The menus are for an elementary school, grades 1-6. In this example, the school didn't vary portions by age/grade groups at lunch, because the students' ages couldn't be identified at serving times. Therefore, the quantities planned for lunch for all students were the quantities specified in Group IV of chart 1, assuring that the students in grades 4, 5, and 6 were being served the minimum requirements for that age group.

Follow through on the total job of planning menus: Determine not only what foods you will serve, but also the total amounts of food you will need, recording this information on food production records, estimating costs, and preparing market orders and work schedules.

Breakfast Pattern	Monday	Portion	Tuesday	Portion	Wednesday	Portion	Thursday	Portion	Friday	Portion
Fruit or Vegetable or Fruit Juice or Vegetable Juice	Orange Juice or Pineapple Juice	1/2 cup	Sliced Banana	1/2 cup	Fruit Cup	1/2 cup	Tomato Juice or Grapefruit Juice	1/2 cup	Applesauce or Grapefruit Sections	1/2 cup
Bread or Bread alternate	Toast	1 slice	Cornflakes	3/4 cup	French Toast with Honey	1 slice	Oatmeal Cinnamon Toast	3/8 cup 1/2 slice	Blueberry Muffin	1
Milk	Choice of Milk	1/2 pint	Choice of Milk	1/2 pint	Choice of Milk	1/2 pint	Choice of Milk	1/2 pint	Choice of Milk	1/2 pint
Other	Scrambled Egg	1							Sausage Pattie	1
Lunch Pattern										
Meat and Meat alternate	Oven Fried Chicken	1 drumstick, 1 wing	Meat Sauce with Spaghetti — meat sauce	1/3 cup	Sliced Turkey on Roll Turkey or Ham and Cheese on Roll Ham Cheese	 2 oz 1 oz 1 oz	Burrito Beans, Meat and Cheese or Tuna Salad	 2 oz 3/8 cup	Hamburger or Fishburger	2 oz 4 oz
Vegetable and Fruit	Green Peas or Broccoli Spears Fresh Fruit	 3/8 cup 1/2 cup	Green Salad Apple or Peach Crisp or Fruit Cup	3/8 cup 3/8 cup 3/8 cup	Vegetable Sticks (Lettuce on Sandwich) French Fries	1/8 cup 1/8 cup 1/2 cup	Lettuce, Tomato, Onion Corn with Green Pepper Bits or Mixed Vegetables Strawberry Shortcake Strawberries or Fresh Fruit	1/8 cup 3/8 cup 3/8 cup 1/4 cup 1/4 cup	Coleslaw or Sliced Tomato & Lettuce Green Beans or Lima Beans Fresh Orange Half	1/4 cup 1/4 cup 1/4 cup 1/4 cup
Bread and Bread Alternate	Rice Pilaf Hot Roll	1/4 cup 1	Italian Bread (Spaghetti)	1 slice 1/2 cup	Hard Roll	1	(Tortilla) Whole Grain Roll	1 1	(Hamburger Roll)	1
Milk	Choice of Milk	1/2 pint	Choice of Milk	1/2 pint	Choice of Milk	1/2 pint	Choice of Milk	1/2 pint	Choice of Milk	1/2 pint
Other Foods	Peanut Butter Cookie		Salad Dressing Parmesan Cheese Butter		Molasses Cookie Catsup/Mayonaise/ Mustard		(Shortcake) Whipped Topping		Catsup/Tartar Sauce Peanut and Raisin Mix	

Breakfast and Lunch Sample Menus

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Breakfast Menu Evaluation

After you have selected and recorded the foods and portions you plan to serve, check menus by using the questions below.

		Yes	No
Requirements	• Have you included all three components of the breakfast in serving sizes sufficient to provide each child with at least:	____	____
	• ½ pint of fluid milk as a beverage or on cereal?	____	____
	• ½ cup fruit or vegetable or full-strength fruit or vegetable juice?	____	____
	• A serving (1 slice) of whole-grain or enriched bread; or a serving of biscuits, rolls, muffins, etc., whole-grain or enriched; or a serving (¾ cup or 1 ounce, whichever gives you a smaller portion) of whole-grain or enriched or fortified cereal; or a combination of these breads or cereal to give you a serving?	____	____
Recommendations	• Is a vitamin C food included frequently?	____	____
	• Are foods for iron served each day?	____	____
	• Is a 1-ounce equivalent of meat or meat alternate served as often as possible?	____	____
Good Menu Planning and Management Practices	• Are the combinations of foods pleasing and acceptable to children?	____	____
	• Do the breakfast and lunch menus complement each other?	____	____
	• Have you planned the menus so that some preparation can be done ahead?	____	____
	• Is the workload balanced among employees?	____	____
	• Can you prepare and serve breakfast with facilities and equipment that you have?	____	____
	• Are oven and surface-cooking spaces adequate for items planned for each breakfast?	____	____
	• Is refrigeration adequate to care for perishable foods?	____	____
	• Have you considered cost?	____	____
	• Have you used foods in your inventory to the extent possible?	____	____
	• Do high- and low-cost foods in menus balance?	____	____

Merchandising the School Lunch and Breakfast

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Chapter 5. MERCHANDISING THE SCHOOL LUNCH AND BREAKFAST

In school food service, merchandising means making eating at school an enjoyable experience. Employees can help do this by being friendly and courteous while serving attractive, good-quality food at a reasonable price, in a pleasant atmosphere.

It is not enough to plan and prepare good food, though that is extremely important in promoting a meal. The appearance and aroma of the meals, as well as the attractiveness of the cafeteria, can tempt the eye and the appetite. The total atmosphere can make a difference in how well the student likes the food. There are many things that you can do to make school lunch and breakfast more popular. You can spice up a meal through presentation with a garnish or two, or spruce up the cafeteria with bright colors and lively decorations. The aroma of freshly baked bread can bring customers to the cafeteria.

Seeing Students as Customers

Today, student eating habits are being influenced by developments unthought of a generation ago. Social factors such as family mobility, mothers working outside the home, and modern communications—especially television—are affecting what students eat.

Therefore, if you want to "sell" good nutritious foods, you may have to take a modern-day approach. Be aware that increasing mobility and freedoms have led to students wanting more choices as well as more input into what they eat. In this sense, students have become "customers," and competition has entered as a factor.

Dealing with Competition

School food service has to compete with snacks from vending trucks and a whole host of off-campus eating establishments. Therefore, you should take a close look at the presentation, atmosphere, service, and foods at the eating places that are popular with your students. Remember that the successful commercial restaurant knows its customers. Ask yourself what makes these places so successful. You might find that attractive, convenient, and appealing food and service are main reasons.

The following pages of this section will give ideas on merchandising school meals to help make eating the school lunch and breakfast an enjoyable experience.

Menu Presentation

The written menu is a major communication and marketing device. Thus, it is important for you to ask yourself a few questions. Does the menu sound appealing and offer sufficient variety and choices to interest the students? When planning good, nutritious menus, you should consider the following:

• Menu terminology can turn appetites on or off. Use fresh, new, accurate, and descriptive words to describe menu items that will tempt students' appetites. Some suggestions are: Crisp Vegetable Sticks, Fluffy Rice, and Ruby Red Tomato Slices. Read commercial menus to get ideas of how to interestingly describe the foods you serve.

• Plan menus around holidays and special occasions. Let students know in advance when these menus will be served. Name menu items after school activities, such as a football team or a current school play.

• Offer choices of either individual menu items or an entire lunch. Avoid monotony by trying new and different service approaches, such as a salad bar, soup and sandwich bar, or a box or bag lunch for eating outside on the school grounds. Publicize that these options are available. Cause anticipation with announcements and publicity leading up to a planned event.

• Advertise the lunch or breakfast. Telling students what will be on the menu, including what choices are available, can be very important. Sending menus home with students will not only help promote the program, but will also inform parents what their children are having for lunch.

• Display the "menu for the day" or the "special for the day" attractively and in an area where it will attract student attention.

• Use terms like "coming soon," "featuring," "the best in town," "all you can eat," "do your own thing," "home of _____," "special of the day," "super sack" (to describe bag lunch), etc.

• Publicize menus in advance through local newspapers, radio, and the school paper. Also, read the menu—with enthusiam—over the school public address system with other announcements.

• Consider descriptive adjectives and presentation when designing the menu format. Remember that presentation includes the order in which menu items are stated as well as the style. The traditional order is: main dish (meat/meat alternate), accompaniment, vegetables, salads, bread (except when part of the main dish), dessert, and milk. You may choose a block style or a balanced arrangement capitalizing each word such as shown on the following page. But be sure to include all parts of the menu.

Tender Sliced Roast Turkey
Cranberry Sauce
Fluffy Mashed Potatoes or
Southern Candied Yams*
Poppy Seed Roll/Butter or Muffin*
Fresh Fruit Cup
Lowfat Milk or Whole Milk*

Thinly Sliced Turkey on Poppy Seed Roll
or
Sliced Baked Ham on Poppy Seed Roll*
Tiny Green Peas or Southern Candied Yams*
or
Fresh Sliced Tomato on Lettuce Leaf*
Hot Apple Crisp or Fresh Orange Slices*
Lowfat Milk or Whole Milk*

*Student's Choice

Food Quality

Good food is an essential ingredient to continued successful "selling" of meals. To "capture" flavor and serve quality food, you should:

- Cook vegetables in batches and avoid holding for more than 15 to 20 minutes before serving. Prepared and served in this manner, vegetables keep their fresh flavor and color and lose a minimum of nutrients.

- Preserve natural food flavors. Contrast or blend flavors carefully.

- Season foods according to standardized recipes. Always taste food before serving to assure that it has been prepared correctly.

- Do not overcook. If an accident does happen and food burns or is a very poor product, avoid the second mistake of serving that food.

Presentation of Food

You may have heard the following description of a meal: "The food may be good, but it sure doesn't look it." Let's face it. We all "eat with our eyes."

The first step to good food presentation is having menus planned with complementary foods that have pleasing color combinations and variety of shapes, tastes, and textures. The final important step is the actual serving of the food.

When displaying the food, make sure that you have used the proper size pans which fit into the steamtable wells. Use pans and utensils on the serving line that look good and are clean and free of unappetizing baked-on foods.

Keep and serve hot foods hot and cold foods cold. Crushed ice is a good merchandising medium to accomplish the latter. Attractively display preportioned foods.

You should group choices so that students can make decisions easily. Use neatly printed signs that students understand and will not cause them to ask questions. Notice: Do students understand them? Do they take only one food as directed?

You should carefully place food and other items that students are to pick up along the serving line, so that the line moves evenly and students are not waiting to pick up several items grouped at one spot.

Before the serving line begins, check the following:

1. How does the food display look from the customer's side of the line?

2. How much food will you be serving and with what portioning tool? Do all the people serving the food know what to do? Give clear instructions.

3. Set up a sample plate for each serving area. Make sure that each server knows the portion size that is planned and the correct serving tool to use.

4. Are preportioned items on the serving line in appropriate quantities for the age/grade group you are serving?

Garnishes, that extra touch, should generally be edible and complement the flavor, color, and texture of the food.

Keeping in mind that the garnish cannot require much in time or money, here are some ideas:

- Carrot strips, curls, or pennies for any meal that needs color

- Celery curls or tops placed around the steamtable pan or on a salad plate

- Cucumber, peeled, unpeeled, or scored with the tines of a fork, to add contrast and texture to many meals

- Lemon wedge or slice on fish

- Lime wedge or slice on melons, lime gelatin desserts, or salads

- Orange wedge, slice, or section, on salads or desserts or for color in any meal

• Green and/or red bell pepper rings, strips, or chopped pieces for color and crispness in many different dishes, such as salads, main dishes, and vegetables (corn or peas)

• Pineapple cubes, slices, or chunks in sweet-and-sour dishes or in rice, salads, desserts, and many meats

• Red cabbage to add color to an otherwise bland-colored salad

• Other ideas: a sprinkle of paprika on mashed potatoes, whole potatoes, tuna or chicken salad, or a sprinkle of cinnamon or allspice on applesauce.

Think of all that can be done with the following:

Parsley sprig, mint leaf, or watercress
Peach slice, chunk, or half
Apple (with or without peel) slice, chunk, or ring
(Prevent darkening by dipping in lemon juice)
Coconut, nuts of all kinds, raisins, grapes, or berries
Bread crumbs and croutons
Cherry tomato, wedge of tomato, or slice
Hard cooked egg, grated, sliced, or wedge

Use of Equipment

• Use the decorative tip on the pastry bag for stuffing eggs and celery, or potatoes; for whipped topping on salads and desserts; and for mayonnaise on salad. Using the pastry bag can be faster, and the results more attractive than using a spoon.

• Cut sandwiches, breads, cakes, and cookies in different shapes for interest.

• Cut sandwich meat, such as turkey and ham, paper-thin and stack high on a bun.

• Cut designs in pastry. For better appearance, bake the pastry crust separately from the cobbler and put on after portioning the cobbler.

• Add a candle to birthday cupcakes for those celebrating birthdays that month.

• Color eggs for display as spring breaks through.

• Choose dishes, cups, and bowls carefully to portion the food. If disposables are used, purchase the correct size. Use clear plastic when appropriate to show off the food. In most cases, food merchandises itself.

• Use logos or nutritional information on cups and milk cartons when possible to add interest.

Use your employees' talents. Together a staff can think of exciting ways to make food look good and make eating at school an exciting and fun adventure.

Service with a Smile

The service should be fast and efficient, with as short a wait as possible. Polite well-groomed people should provide pleasant service. Consider the following:

- Be ready for students when the breakfast or lunch periods begin.
- Keep employees informed so they can answer student questions.
- Those serving the food can "sell" the program. A smile, a pleasant answer or hello, and a good attitude on the part of those serving the food are all important.
- Have a checklist of what should be on the line or at the service area before service begins, such as napkins, straws, forks, spoons, knives, condiments, and signs communicating what the customer needs or might want to know. Be sure sufficient quantities are available.
- Colored aprons or specially coordinated uniforms can add much to the atmosphere. Soiled uniforms and aprons do not belong on the serving line.
- Employees could wear name tags for a personal touch.
- Calling students by name is **the** added personal touch.

Cafeteria Atmosphere

Keep the cafeteria and the serving line spotlessly clean and attractive.

Consider:

- Using bright colors in painting the walls. Soft pastels and neutrals may not be the best.
- Maintaining good lighting, especially over the serving area.
- Decorating with nutrition posters and mobiles, murals, art class pictures, or seasonal displays. Invite classes to decorate with artwork or class projects in the cafeteria.
- Hanging plants in the dining room and using carefully selected music to create an interesting atmosphere. However, do not put plants on tables where you serve or prepare food.
- Having students name the cafeteria. A good name can help create a good image.
- Arranging tables in interesting groupings, when possible. Note from observation how students prefer sitting. Elementary students may prefer sitting with their class or in large groups. However, tables can be arranged in ways other than straight lines to accommodate this. Intermediate or junior high school students often like 6 to 10 in their group; high school students may like small groups of 2 to 4, but on occasion may want to have larger groups. You may need combinations of small and large groupings.

Involving Students and Parents

Student and parent involvement is **required** by Federal regulation for the National School Lunch Program. Experiences across the country have shown that such involvement in the school lunch program has a positive effect on achieving better communication and understanding of program objectives. The involvement has also improved overall acceptability of the school lunch and breakfast and increased participation at all levels.

To this end, USDA is requiring school food authorities to promote activities at their own discretion to involve students and parents in school lunch programs. Such activities include menu planning, enhancement of the eating environment, program promotion, and related student-community support activities. See the USDA fact sheet, *Planning and Carrying Out a Program of Student and Parent Involvement,* for detailed instructions. (See appendix IV.)

Follow Through

The job does not stop when you serve the food. If you circulate throughout the serving and dining areas during the lunch period, you can determine what the students are eating and why. This can help you evaluate menu planning, food quality, production, service, and merchandising. Also good public relations are enhanced when the manager and staff answer student questions and listen to their comments. Students need to know that you are interested in them and their comments on the food.

Innovative Ideas

Traditionally, we think of school meals being served cafeteria-style with someone dishing up the food items. In recent years, many innovative schools have ventured away from the customary—not only in service but menu, as well. Some of these ideas are related in this section.

Keep in mind, though, that with any new service approach, you must ensure the nutritional integrity of the meal and accountability for it. You should plan ways to assure that (1) all components of the meal are available in proper quantities to each student and (2) you can accurately count all meals toward reimbursement in accordance with the State agency's procedures.

Salad, Sandwich, and Breakfast Bars

The self-service food bar, which boomed during the seventies in commercial restaurants, continues to be popular into the eighties. Schools are finding the concept of allowing students to build their own salads, sandwiches, and breakfasts highly successful.

You need little basic equipment, although it is desirable to have a serving area where you can keep food cold. (Remember that crushed ice is a great merchandiser.) Portable or mobile-type equipment that you can set up in the kitchen and move to the area where you will serve the meal is desirable. However, many schools have converted serving lines and tables of all kinds to make attractive display areas. Note: you must consider local sanitation requirements when planning self-service areas in the school cafeteria.

In order to assure that you have met Federal requirements and can be accountable for your meals, you may have to preportion several parts of the menu. For example, you could preportion meat/meat alternates, bread, and milk. A cashier stationed at the end of the area can check each tray to determine that all required components are in the meal.

Salad Bars. You can use the salad bar for an accompaniment to the regular lunch or the entire meal. With the variety of foods on the salad bar and its "self-service" approach, students may try foods they may not otherwise eat.

The list of foods that you can serve on a salad bar is endless, but here are a few:

Meat/Meat Alternate—cheese of all kind; cheeseballs rolled in peanut granules; egg, tuna, chicken, turkey, and ham salad; bean salad using cooked dry beans or kidney beans; luncheon meat and cheese (alternately stacked slices of meat and cheese, cut in strips for a ribbon effect), shredded, sliced, grated, cubed meats, poultry and cheese; or hard-cooked eggs.
Bread/Bread Alternate—croutons made with left-over breads and bread ends, variety of breads, macaroni salad, crackers, bread sticks.
Vegetable/Fruit—raw vegetables, such as cabbage, cauliflower, broccoli, green peppers, cucumbers, mushrooms, tomatoes, carrots, celery, radishes, onions; pickled vegetables, such as beets, cucumbers, beans, and corn relish; cooked cold green peas; chickpeas; melons in season; and fresh and canned fruits of all kinds.

Serve with ½ pint of milk, salad dressings (always a choice of at least two dressings with one being low-calorie), and other foods such as peanut granules, chow mein noodles, and parmesan cheese for interest and for their nutritive contributions. During the cold months, add hot soups for a nice change.

Soup and Sandwich Bar. This bar can lead to a "build your own sandwich" approach with preportioning of some items. You can try a variety of breads quite well, as well as emphasize the whole-grain breads. The pita (pocket) bread has grown in popularity and is fun to use for holding a taco filling or any combination of fillings, making a "kangaroo sandwich" or pocket sandwich. Display the pita bread in the salad bowl with the other ingredients to be added "as you like it" or to "scoop 'n' serve" for a fresh approach. The fillings are endless, but could include scrambled eggs, cheddar cheese, tomato, mushrooms, onions, avocado, cucumbers, green pepper, beans, and alfalfa sprouts.

A key to the success of the self-service approach is communicating to the students how much food they should take. Even placing the ounce scale for students to weigh out their own combinations of meats and cheese has worked well for some situations. Students will diligently carry out the weighing of their meat/meat alternate or filling a cup or half-cup with the vegetables and/or fruits if instructions are clear.

Breakfast Bar. A salad bar can easily be converted to make breakfast fun. The large salad bowl is filled with bulk, loose cereal for portioning in the individual bowls. Students serve themselves fruits and berries and/or melons, and top it off with a carton of milk.

Fast Food

Some junior and senior high schools with more than one serving line have had good results using one line to serve "fast food" sandwich-type menus.

Some of the schools have wrapped and color-coded sandwiches so several choices can be served. They have also preportioned several parts of the menu so that several choices can be offered and to help speed service in a self-service arrangement. Or, some schools prefer the short-order approach of filling the order student by student. The facilities and amount of staff available helps determine which works best. By carefully planning the vegetables and fruits to complement the sandwich-type menus, schools can offer nutritious meals of popular foods.

Family-Style Service

Recently, some elementary schools have had a lot of success with family-style service. Family-style service, where a group is served at a table from bowls or platters of food, is frequently used at residential child care institutions. A teacher or monitor shows those at the table how much they should serve themselves when the bowl is passed the first time. In many cases, this approach has encouraged students to try new foods and has resulted in less plate waste. This method of service, however, does not erase waste, as the food left in the bowl cannot be reused (in accordance with health department sanitation standards). The system used must assure that enough food is in the bowl for all students to have the proper quantity of all foods.

This type of service makes occasions like Thanksgiving especially festive. Special table settings and decorations add to the atmosphere.

Modified family-style service may be more workable where controlling portions is a problem. Serve some food items onto the plate or tray; allow students to serve themselves other food items. For example, you can set up a vegetable or fruit table where you can give choices to students, or the students can pass the bowl or platter containing the foods at the table. You should give directions on how much food comprises a serving.

Smorgasbord or Buffet Style

With smorgasbord or buffet-style service, customers serve themselves or pick up preportioned foods, generally from a large selection. Controlling food cost and assuring that each student's lunch meets the meal requirements requires special planning and control. Self-service will take less labor to serve large numbers and can be more efficient. If you space items to be picked up properly, you can serve as many as 25 students per minute. Preportioning of some items and good instructions on quantities the students are to select are very important.

The employees will be replenishing the line and greeting customers, with a cashier taking the money or tickets and accounting for meals served. Accounting methods should have the State agency's approval.

In some cases, the regular serving line has been altered slightly. However, you should follow sanitation rules, such as having a sneeze guard over foods. Make sure to meet local health codes.

Continual Service

Serving food during much of the school day—beyond normal lunch periods—has been successful for some schools. Many high schools have started continual service to meet needs of students on work programs or unusual schedules of classes, such as split shifts, or to alleviate overcrowded conditions in the dining areas. Also, students will drop in the cafeteria for

socializing during free periods or as a study hall. In most cases, participation has increased when service has been made available over extended periods of time.

In these situations, the schools serve breakfast until midmorning, and lunch, milk, and a la carte food items over several hours.

Restaurant With Table Service

The regular school lunch served with a flair can best describe this approach. Because of labor cost constraints, the restaurant with table service approach has worked more successfully where students are used to serve and bus tables as part of vocational training. In most cases, the restaurant is in addition to the regular cafeteria service and is separate from regular dining room. Interesting decor, logo, and themes are necessary.

Advance reservations have worked well and usually are necessary because of the popularity of this special service. Schools must avoid discrimination between paying students and those receiving free or reduced-price meals. Vocational classes working with the food service manager have been able to turn the operation of the restaurant into a real learning experience in customer relations, proper serving of meals, correct table setting, etc.

Bag or Box Lunch

The surprise of seeing what is in the bag or box, speeding up the service, and allowing service to be offered in many different parts of the school have been a few of the reasons schools have had success with a bag or box lunch. Although the approach is not new, its convenience has made it work at many schools. It is a good solution for the field trip group, working students, or those students generally "on the go." On a pretty spring day, sitting on the school lawn is just the thing many students want to do. The bag or box lunch can provide change and help break menu monotony. Since you can prepare and preportion many of the foods going into the bag or box lunch ahead of time, you can lighten the workload during peak production and service hours.

Instead of a plain brown bag, try using a colorful bag with special information printed on it that will help promote the lunch. Provide the additional image of a good name, like "super sack" or "nutrition to go."

A menu example:

Sandwich (hot or cold, depending on serving arrangements)
Vegetable sticks or cold salads
Fresh fruit
Package of peanuts or "trail mix" of peanuts and raisins or other dried fruits
Milk

Vegetarian Menu

It is possible to serve vegetarians, who eat plant foods, dairy products and eggs, within USDA meal requirements.

Many schools have received requests for vegetarian lunches. Depending on the interests of your students, you may want to offer a vegetarian menu as

an occasional "special of the day" or choice. Care in menu planning is essential, with particular attention to the quality of protein in a vegetarian menu. The best way to assure this is to have a variety of sources of vegetable protein in a meal. Combine legumes and cereals, such as beans with corn, beans with rice, and peanuts with wheat. Serving milk with school lunches and including other dairy products such as cheese and eggs will also help assure the needed quality of protein provided by school lunches.

Some examples of vegetarian menus are:

Peanut Butter Sandwich with Jelly
on Whole-Grain Bread
School-Made Vegetable Bean Soup
Fresh Fruit
Milk

Cottage Cheese Salad with
Raisins and Fresh Vegetables
(cucumber and carrot sticks)
Sliced Tomato on Lettuce
Whole Wheat Roll
Milk

Bean and Rice Salad
(kidney beans, lima beans,
corn, and rice on lettuce)
Cheese and Fruit Cup
Molasses Cookie (optional)
Milk

Bean Burritos
(pinto beans, grated cheese,
diced tomato, lettuce, tortillas)
Yellow Corn
Milk

Lentil Stew
(lentils, tomatoes, potatoes,
carrots, and celery)
Orange Slices
Cheese-Peanut Butter Crackers
Rice Pudding with Raisins
Milk

Energy-Saver Menu

Consider conserving energy in meal preparation. Highlight your conservation efforts by planning one menu every 2 to 4 weeks that requires little or no cooking. Using disposables (paper supplies) to avoid dishwashing may be considered. Also, a clever name for an energy-saving meal will promote the idea.

6

Nutrition Education and Menu Planning

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U.S. Department of Agriculture

Nutrition Education—Its Role

With good planning, school lunch and breakfast service can be an important teaching tool. It can help students expand their knowledge of nutrition as well as develop useful consumer skills for making wise food choices throughout their lives. It offers practical experience in adjusting food choices to a constantly changing food supply.

The educational impact is greatest when the food that students get in the cafeteria reflects the nutrition training they get in the classroom along with the guidance they get at home.

Well-coordinated nutrition education activities often lead to greater food acceptability, increased interest in cafeteria activities, and higher participation in the school lunch and breakfast programs.

The Menu—An Educational Tool

The menu is an ongoing, continuous message to the community. It tells a lot about the importance of nutrition education at your school.

It can be both challenging and rewarding to strike a balance between the limited range of foods preferred by many of today's students and the virtually unlimited range of nutritious food choices available.

The Education Triangle

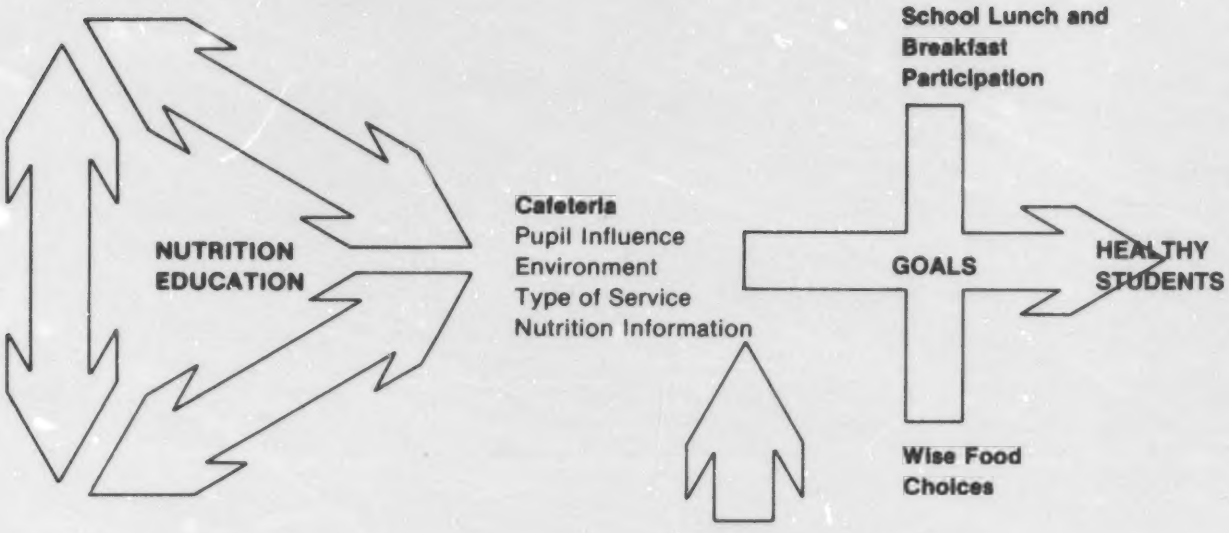
A student's reaction to the menu served at school is the product of many forces. Factors like food costs, other foods sold on campus and off, and your food service setup, all play a part. But most important is the triangle of home, classroom, and cafeteria diagrammed here. Together they exert a powerful and long-range influence over a student's likes and dislikes and attitudes towards food. In this case the cafeteria is the focal point of the triangle, because it is one place where students are in control of their own food choices; where they decide whether or not to eat what is on the menu.

Thus, if a student is never served broccoli at home, there's a good chance he or she will turn it down at school. On the other hand, if that student learns about broccoli through a special study unit in the classroom and gets an opportunity to try it at a tasting party, the student may be more inclined to choose broccoli from the menu.

Collectively, these decisions by individual students—backed by educational influences of those of you in the triangle—determine their level of participation in school lunch and breakfast programs. That, in turn, determines how well the programs succeed in contributing to students' health and well-being.

The Nutrition Education Triangle

Home
Food Information
Advertising on T.V., Radio
Family Influence and Values



Classroom
Health & Nutrition Information
Peer Influence

Other Influencing Factors
Food Costs
Eating Time & Schedule
Other Food Sold On & Off School Grounds

Student Involvement

One of the best ways for students to expand their nutrition knowledge is to help plan cafeteria menus. Investigate the possibility of forming a Youth Advisory Committee (YAC) at your school, or organize a "menu advisory committee." Your student advisors can be either students from one classroom, one grade level, or a committee of 8-10 students solicited from interested members of the student council or other groups. Rotate committee members on a regular basis to give more students a chance to participate. Initially, provide the committee with information and guidelines about school lunch and breakfast requirements.

The menu advisory committee could conduct a food preference survey to determine the food likes and dislikes of the students. Using the survey results—along with knowledge of nutrition obtained in the classroom and cafeteria—students could plan menus for several days. Try them out in the cafeteria. The committee could then do a followup survey, including a look at food waste, to test student reaction and determine where further improvements are needed.

• Another way you might involve students is investigating the possibility of providing music during the lunch hour. A student might use popular melodies and write nutrition-related lyrics. Thirty-second-spot broadcasts on the school intercom, using a soap-opera format, are also well received.

• Decorate the cafeteria with student artwork on food and nutrition topics. Sponsor a contest for the most original poster drawn to advertise school lunch or breakfast. Publicize the contest and offer prizes consistent with the goal of educating the students in making wise food choices.

• Use blackboards to provide a place for recording daily tallies of lunches sold. Student aids can compare the nutrient content of the most and least popular of the school lunch menus and post the results on the board for all to see.

• Provide bulletin boards to show current topics of interest. Post information about weight control and selection of low-calorie items from the school lunch and breakfast. Get student input.

• A modified buffet-style or smorgasbord service could spark new interest in vegetables among the students. Portion the meat, bread, and dessert as usual. At a separate table, highlight a variety of hot and cold attractively displayed vegetables. You might also consider offering the vegetables in bowls—family-style—for students to spoon out their own portions.

A day or two prior to the vegetable buffet, visit the classrooms to explain it to the students. Encourage them to choose as much of a vegetable or as many different kinds of vegetables as they want.

Ask student volunteers to draw charts or posters to display in the cafeteria. The posters can illustrate and identify the vegetables offered in the buffet service.

Classroom—Cafeteria Coordination

It's important that lunch and breakfast menus and cafeteria functions reflect what is happening in the classroom. Stay informed about classroom activities through regular staff meetings or written communications. Serve foods which have been highlighted in the class lessons, and remain open to minor modifications in cafeteria operations which may help to reinforce an educational concept.

There are several ways that menu plans and classroom activities can be linked:

• Foreign language students can assist in planning ethnic menus and introducing them to other students. Offer assistance in selecting ethnic foods, such as pastas and special vegetables, for any special presentations.

• Take a practical problem to the math class. Ask the students to calculate the cost of various lunch and breakfast menus at school and away from school. Make comparisons and explain the differences.

• Set up a food-drying experiment in the science laboratory for fresh fruits, such as apples. Ask students to plan how the dried fruit can be incorporated into the breakfast menu.

• When the health class covers weight control, ask the students to suggest low-calorie foods for breakfast and lunch. Incorporate them intc cafeteria menus while the subject is current and ask the students to post signs or cards identifying the low-calorie choices.

• Provide a list of USDA-donated foods to the home economics class to investigate how farm policy and food markets affect what is distributed to the school lunch and breakfast programs. Ask them to prepare menus using USDA-donated foods.

• Plan special tasting parties of "new" foods to be introduced in the menu.

Getting Parents Involved

Parents and other family members consciously and unconsciously influence what students eat. Students begin developing values and attitudes about food in infancy and continue to develop them through observing others and modeling their behavior after what they've seen. The ultimate success of any nutrition education program comes when students carry their enthusiasm home.

Invite parents to participate in food activities at school. Offer them an opportunity to learn more about good nutrition and see what their children are doing. A PTA meeting can be designed around a "school lunch sampler" party. Freeze several portions of a variety of lunch menus 2 or 3 weeks in advance of the meeting. Heat and display these "samplers" as the refreshment portion of a program devoted to informing the parents about the school food service.

You might also prepare menus and school lunch and breakfast information sheets for students to take home to their parents. Include small quantity recipes based on the school lunch or breakfast menus.

To learn more about food preferences, consider asking the parents to help in filling out a food recall questionnaire.

Seek parent help with cafeteria activities such as preparing materials, improving the cafeteria environment, planning special menus, and participating in educational programs. For example, enlist their aid in placing a colorful bulletin board in the cafeteria for nutrition information displays. Or have parents help prepare table talkers or table tents containing nutrition information or answers to nutrition myths.

A Checklist

Consider the following questions as you plan your menus:

1. Does the menu make a nutrition education statement in which you can take pride?

2. Do the students know that certain foods are included in the menu because they are sources of nutrients their bodies need to be healthy?

3. Does the menu demonstrate ways students may make choices regarding foods in their own lives?

4. Are the physical environment, the social environment, and the way the meal is served conducive to a pleasant mealtime?

5. Are students and teachers encouraged to be involved in cafeteria activities?

6. Are parents informed and involved in menu planning and in other types of nutrition education activities?

References

To obtain help in developing these activities, you might contact the following sources:

1. Your State may be able to help you implement your program, and identify other resources in your area.

2. Your State may already have an audio-visual clearinghouse in operation. Materials available through it could help support a nutrition education program.

3. The Food and Nutrition Information Center (FNIC) is a USDA information center that lends books and audiovisual materials dealing with human nutrition, food service management, and food science. For more information you can write to:

FNIC
National Agriculture Library
Beltsville, Maryland 20705

Telephone: (301) 344-3719 (24-hour monitor)

Appendix I Recommended Dietary Allowances, Revised 1980

Designed for the maintenance of good nutrition of practically all healthy people in the U.S.A.

Food and Nutrition Board, National Academy of Sciences — National Research Council

age and sex group	weight kg.	weight lb.	height cm.	height in.	protein	fat-soluble vitamins: vitamin A	vitamin D	vitamin E	water-soluble vitamins: vitamin C	thiamin	ribo-flavin	niacin	vitamin B_6	folacin	vitamin B_{12}	minerals: calcium	phosphorus	magnesium	iron	zinc	iodine
					gm.	μg. R.E.†	μg.‡	mg. α T.E.#	← mg. →			mg. N.E.¶	mg.	← μg. →		← mg. →					μg.
infants																					
0.0-0.5 yr.	6	13	60	24	kg. × 2.2	420	10	3	35	0.3	0.4	6	0.3	30	0.5**	360	240	50	10	3	40
0.5-1.0 yr.	9	20	71	28	kg. × 2.0	400	10	4	35	0.5	0.6	8	0.6	45	1.5	540	360	70	15	5	50
children																					
1-3 yr.	13	29	90	35	23	400	10	5	45	0.7	0.8	9	0.9	100	2.0	800	800	150	15	10	70
4-6 yr.	20	44	112	44	30	500	10	6	45	0.9	1.0	11	1.3	200	2.5	800	800	200	10	10	90
7-10 yr.	28	62	132	52	34	700	10	7	45	1.2	1.4	16	1.6	300	3.0	800	800	250	10	10	120
males																					
11-14 yr.	45	99	157	62	45	1,000	10	8	50	1.4	1.6	18	1.8	400	3.0	1,200	1,200	350	18	15	150
15-18 yr.	66	145	176	69	56	1,000	10	10	60	1.4	1.7	18	2.0	400	3.0	1,200	1,200	400	18	15	150
19-22 yr.	70	154	177	70	56	1,000	7.5	10	60	1.5	1.7	19	2.2	400	3.0	800	800	350	10	15	150
23-50 yr.	70	154	178	70	56	1,000	5	10	60	1.4	1.6	18	2.2	400	3.0	800	800	350	10	15	150
51 + yr.	70	154	178	70	56	1,000	5	10	60	1.2	1.4	16	2.2	400	3.0	800	800	350	10	15	150
females																					
11-14 yr.	46	101	157	62	46	800	10	8	50	1.1	1.3	15	1.8	400	3.0	1,200	1,200	300	18	15	150
15-18 yr.	55	120	163	64	46	800	10	8	60	1.1	1.3	14	2.0	400	3.0	1,200	1,200	300	18	15	150
19-22 yr.	55	120	163	64	44	800	7.5	8	60	1.1	1.3	14	2.0	400	3.0	800	800	300	18	15	150
23-50 yr.	55	120	163	64	44	800	5	8	60	1.0	1.2	13	2.0	400	3.0	800	800	300	18	15	150
51 + yr.	55	120	163	64	44	800	5	8	60	1.0	1.2	13	2.0	400	3.0	800	800	300	10	15	150
pregnancy					+ 30	+ 200	+ 5	+ 2	+ 20	+ 0.4	+ 0.3	+ 2	+ 0.6	+ 400	+ 1.0	+ 400	+ 400	+ 150	††	+ 5	+ 25
lactation					+ 20	+ 400	+ 5	+ 3	+ 40	+ 0.5	+ 0.5	+ 5	+ 0.5	+ 100	+ 1.0	+ 400	+ 400	+ 150	††	+ 10	+ 50

*The allowances are intended to provide for individual variations among most normal persons as they live in the United States under usual environmental stresses. Diets should be based on a variety of common foods in order to provide other nutrients for which human requirements have been less well defined. See text for detailed discussion of allowances and of nutrients not tabulated. See preceding table for weights and heights by individual year of age and for suggested average energy intakes.

†Retinol equivalents; 1 retinol equivalent = 1μg. retinol or 6μg. β-carotene. See text for calculation of vitamin activity of diets as retinol equivalents.

‡As cholecalciferol: 10 μg. cholecalciferol = 400 I.U. vitamin D.

#α-tocopherol equivalents: 1 mg. d-α-tocopherol = 1 α T.E. See text for variation in allowances and calculation of vitamin E activity of the diet as α tocopherol equivalents.

¶1 N.E. (niacin equivalent) = 1 mg. niacin or 60 mg. dietary tryptophan.

‖The folacin allowances refer to dietary sources as determined by *Lactobacillus casei* assay after treatment with enzymes ("conjugases") to make polyglutamyl forms of the vitamin available to the test organism.

**The RDA for vitamin B_{12} in infants is based on average concentration of the vitamin in human milk. The allowances after weaning are based on energy intake (as recommended by the American Academy of Pediatrics) and consideration of other factors, such as intestinal absorption; see text.

††The increased requirement during pregnancy cannot be met by the iron content of habitual American diets or by the existing iron stores of many women; therefore, the use of 30 to 60 mg. supplemental iron is recommended. Iron needs during lactation are not substantially different from those of non-pregnant women, but continued supplementation of the mother for two to three months after parturition is advisable in order to replenish stores depleted by pregnancy.

Appendix I Estimated safe and adequate daily dietary intakes of additional selected vitamins and minerals*

age group	vitamins			trace elements†						electrolytes		
	vitamin K	biotin	pantothenic acid	copper	manganese	fluoride	chromium	selenium	molybdenum	sodium	potassium	chloride
	← µg. →			← mg. →								
infants												
0.0-0.5 yr.	12	35	2	0.5-0.7	0.5-0.7	0.1-0.5	0.01-0.04	0.01-0.04	0.03-0.06	115- 350	350- 925	275- 700
0.5-1.0 yr.	10- 20	50	3	0.7-1.0	0.7-1.0	0.2-1.0	0.02-0.06	0.02-0.06	0.04-0.08	250- 750	425-1,275	400-1,200
children and adolescents												
1-3 yr.	15- 30	65	3	1.0-1.5	1.0-1.5	0.5-1.5	0.02-0.08	0.02-0.08	0.05-0.1	325- 975	550-1,650	500-1,500
4-6 yr.	20- 40	85	3-4	1.5-2.0	1.5-2.0	1.0-2.5	0.03-0.12	0.03-0.12	0.06-0.15	450-1,350	775-2,325	700-2,100
7-10 yr.	30- 60	120	4-5	2.0-2.5	2.0-3.0	1.5-2.5	0.05-0.2	0.05-0.2	0.1 -0.3	600-1,800	1,000-3,000	925-2,775
11+ yr.	50-100	100-200	4-7	2.0-3.0	2.5-5.0	1.5-2.5	0.05-0.2	0.05-0.2	0.15-0.5	900-2,700	1,525-4,575	1,400-4,200
adults	70-140	100-200	4-7	2.0-3.0	2.5-5.0	1.5-4.0	0.05-0.2	0.05-0.2	0.15-0.5	1,100-3,300	1,875-5,625	1,700-5,100

*From Recommended Dietary Allowances, Revised 1980. Food and Nutrition Board, National Academy of Sciences—National Research Council. Because there is less information on which to base allowances, these figures are not given in the main table of the RDAs and are provided here in the form of ranges of recommended intakes.
†Since the toxic levels for many trace elements may be only several times usual intakes, the upper levels for the trace elements given in this table should not be habitually exceeded.

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Appendix I Mean Heights and Weights and Recommended Energy Intake*

age and sex group	weight		height		energy		
	kg.	lb.	cm.	in.	needs MJ	needs kcal	range in kcal
infants							
0.0-0.5 yr.	6	13	60	24	kg. × 0.48	kg. × 115	95- 145
0.5-1.0 yr.	9	20	71	28	kg. × 0.44	kg. × 105	80- 135
children							
1-3 yr.	13	29	90	35	5.5	1,300	900-1,800
4-6 yr.	20	44	112	44	7.1	1,700	1,300-2,300
7-10 yr.	28	62	132	52	10.1	2,400	1,650-3,300
males							
11-14 yr.	45	99	157	62	11.3	2,700	2,000-3,700
15-18 yr.	66	145	176	69	11.8	2,800	2,100-3,900
19-22 yr.	70	154	177	70	12.2	2,900	2,500-3,300
23-50 yr.	70	154	178	70	11.3	2,700	2,300-3,100
51-75 yr.	70	154	178	70	10.1	2,400	2,000-2,800
76+ yr.	70	154	178	70	8.6	2,050	1,650-2,450
females							
11-14 yr.	46	101	157	62	9.2	2,200	1,500-3,000
15-18 yr.	55	120	163	64	8.8	2,100	1,200-3,000
19-22 yr.	55	120	163	64	8.8	2,100	1,700-2,500
23-50 yr.	55	120	163	64	8.4	2,000	1,600-2,400
51-75 yr.	55	120	163	64	7.6	1,800	1,400-2,200
76+ yr.	55	120	163	64	6.7	1,600	1,200-2,000
pregnancy						+300	
lactation						+500	

*From Recommended Dietary Allowances, Revised 1980, Food and Nutrition Board, National Academy of Sciences—National Research Council, Washington, D.C. The data in this table have been assembled from the observed median heights and weights of children, together with desirable weights for adults for mean heights of men (70 in.) and women (64 in.) between the ages of eighteen and thirty-four years as surveyed in the U.S. population (DHEW/NCHS data).

Energy allowances for the young adults are for men and women doing light work. The allowances for the two older age groups represent mean energy needs over these age spans, allowing for a 2 per cent decrease in basal (resting) metabolic rate per decade and a reduction in activity of 200 kcal per day for men and women between fifty-one and seventy-five years; 500 kcal for men over seventy-five years; and 400 kcal for women over seventy-five (see text). The customary range of daily energy output is shown for adults in the range column and is based on a variation in energy needs of ±400 kcal at any one age (see text and Garrow, 1978), emphasizing the wide range of energy intakes appropriate for any group of people.

Energy allowances for children through age eighteen are based on median energy intakes of children of these ages followed in longitudinal growth studies. Ranges are the 10th and 90th percentiles of energy intake, to indicate range of energy consumption among children of these ages (see text).

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Lunch Pattern	MONDAY	PORTION SIZE		TUESDAY	PORTION SIZE	
		Group	Group		Group	Group
Meat and Meat Alternate						
Vegetable and Fruit						
Bread and Bread Alternate						
Milk						
Other Foods						
	WEDNESDAY			**THURSDAY**		
Meat and Meat Alternate						
Vegetable and Fruit						
Bread and Bread Alternate						
Milk						
Other Foods						
	FRIDAY					
Meat and Meat Alternate						
Vegetable and Fruit						
Bread and Bread Alternate						
Milk						
Other Foods						

Week beginning _____

Appendix II

Menu Planning Worksheet

Appendix III
Moderating Fat, Sugar, and Salt in School Lunches and Breakfasts

While scientists continue to debate what the optimal dietary level of fat, sugar, and salt ought to be, they generally agree that lifelong moderation of intake is consistent with good health in the general population. The school has a responsibility to safeguard the health of today's children, who are tomorrow's adults. This discussion presents recommendations to help schools address that responsibility. These are not requirements for schools.

The USDA recommendation to moderate fat, sugar, and salt is responsive to current dietary concerns. For some time, research has shown that excessive amounts of these food components in the diet may have health implications. Overconsumption of certain forms of fat has been associated with heart disease in susceptible persons. Sugar has been shown to contribute to tooth decay. Excess sodium in the diet is believed to contribute to high blood pressure, particularly among people who are susceptible for genetic reasons. The major sources of sodium in the diet are salt, salty foods, and sodium-containing food additives and ingredients.

The intent of this recommendation is to maintain the amount of fat, sugar, and salt in school meals at a moderate level by limiting—*to the extent that's practical*—(1) the frequency of service of food items that contain relatively large amounts of these food components and (2) the quantities of these food components or items containing them that you use in food preparation. To accomplish this objective, you may wish to examine and modify four major areas within quantity food production.

These are:

1. Menu planning
2. Food purchasing
3. Selection of quantity recipes
4. Techniques of food production

SPECIAL NOTE: In making modifications in school meals, keep these thoughts in mind—

The way in which you approach making changes is important to the success of the changes. INFORM STUDENTS AND TEACHERS THAT MODIFICATIONS IN SCHOOL MEALS ARE BEING MADE AND WHY. IDEALLY, INTERESTED STUDENTS SHOULD BE GIVEN AN OPPORTUNITY TO PARTICIPATE IN THE DECISIONS ON HOW TO MODIFY MEALS. THIS WILL HELP ASSURE STUDENT ACCEPTABILITY. Then, when making modifications, do so gradually—nobody likes drastic changes in their foods. The best source of adequate nutrition is a wide variety of foods with all things taken in moderation.

This discussion is divided into the following sections:

Major Sources of Fat, Sugar, and Salt
Suggestions for Evaluating and Modifying Menu Planning
Suggestions for Purchasing Foods
Suggestions for Modifying Quantity Recipes
Suggestions on Techniques of Food Production

Major Sources of Fat, Sugar, and Salt

Before examining the areas within quantity food production that lend themselves to the goal of moderating the amount of fat, sugar, and salt in school meals, you must be able to identify major sources of these food components.

FAT. Various types of fat and oils are frequently used in food preparation. Fat is also a natural component of various foods and an ingredient in many commercially prepared food items.

SUGAR. Various types of sugar or sweeteners are frequently used in food preparation. Sugar and sweeteners are also widely used in many commercially prepared food items.

SALT. Salt contains sodium; sodium is added to foods whenever plain or seasoned salt, or seasoning mixes, are used. Commercially prepared foods sometimes contain a large amount of salt and other sodium compounds added during processing.

The table below lists types of fat and oils, sugar or "sweeteners," and salt- or sodium-containing ingredients commonly used in food preparation.

Common Ingredients Used in Food Preparation

FAT	SUGAR	SALT (Sodium-Containing Ingredients)
Beef fat or tallow	Brown sugar, dark	Meat tenderizers
Butter	Brown sugar, light	Monosodium glutamate
Lard	Brown sugar, liquid	Seasoning mixes, such as:
Margarine	Corn syrup	Salad seasoning
Pork fat	Granulated sugar	Taco seasoning
Shortening	Honey	Seasoning salts, such as:
Vegetable oils, such as:	Maple sugar and syrup	Onion salt
Corn oil	Molasses	Garlic salt
Peanut oil	Powdered sugar	Soy sauce
Safflower oil	Sugar syrups	Table salt
Soybean oil		Worcestershire sauce

Revised Agriculture Handbook No. 8, "Composition of Foods: Raw, Processed, Prepared," and Home and Garden Bulletin No. 233, "Sodium Content of Your Foods," are sources of data on fat and sodium content of foods in frequently used measures. Handbook 8 is being revised in sections. For fat content of foods not yet listed in Handbook 8 sections, an older publication, Agriculture Handbook No. 456, "Nutritive Value of American Foods in Common Units," may be used as a source. Although these sources do not provide values for sugars in foods, they do list the grams of fat and milligrams of sodium. Salt (sodium chloride) is composed of approximately 40 percent sodium. Therefore 1 gram (1,000 milligrams) of salt contains approximately 400 milligrams of sodium and *1 teaspoon* of salt (5.5 grams) contains approximately *2,200 milligrams* of sodium. The above publications will enable you to make a relative comparison of the amounts of fat and salt present in foods available in school meals and make substitutions accordingly.

Your county's Public Health nutritionist and Extension Service home economist should also be able to provide you with sources of information on the composition of foods. They can also help you to calculate the amounts of fat and salt your menus provide before and after you modify them.

Suggestions for Evaluating and Modifying Menu Planning

The menu determines to a great extent the amount fat, sugar, and salt in school lunches and breakfasts. Therefore, you should examine menu planning first. Once you design menus to moderate the use of foods containing relatively large amounts of fat, sugar, or salt, you can review and modify quantity recipes and purchasing specifications. In addition, you can begin to prepare foods in a different way.

Menu Evaluation

The first step in revising the menu is to review your customary menus and identify those foods that contain relatively large amounts of fat, sugar, or salt, and then to note how frequently they are served.

Do you serve foods containing relatively large amounts of fat, sugar, or salt daily, several times weekly, once a week, less than once a week, or only occasionally? Do you serve two or more of these foods in the same meal?

Menu Modification

The extent to which you will need to modify your menu to maintain the amount of fat, sugar, and salt at a moderate level depends on what you are now serving. If foods that contain relatively large amounts of fat, sugar, or salt appear frequently on the menu, you may need to gradually make several revisions. On the other hand, few changes may be needed if the items on the menu contain only moderate amounts of fat, sugar, and salt.

In modifying your menus you should strive for overall balance and moderation of fat, sugar, and salt content for the meal, or even day to day. For example, if you wish to serve a popular food item which contains a relatively large amount of salt, balance the meal by selecting for the other components food items which contain relatively less salt, or plan a meal of lower total salt content for the next day.

When making substitutions for those foods which contain substantial amounts of fat, sugar, or salt, be sure to replace them with items which are *acceptable* to students. If students participate in this review process and share in deciding which foods to serve, they are more likely to accept the changes.

To maintain acceptability of the lunch or breakfast, you should modify the menu on a *gradual* basis. You can do this by:

1. Making one major modification at a time (for example, leaving the frosting off cake may be the major modification in a particular menu).

2. Gradually decreasing the number of times you serve a food item that is a major source of fat, sugar, or salt (for example, from three to four times per month to one to two times per month).

3. Replacing some relatively high-level sources of fat, sugar, or salt with moderate ones (for example, changing from fruited gelatin to canned fruit in light syrup or natural juice, or fresh fruit, over a period of several months).

Revising Menus—General Pointers

In modifying menus, remember that *you need not* entirely *eliminate* items containing fat, sugar, and salt. The goals are variety, balance, and moderation. Listed below are some suggestions:

FAT

- Serve lower fat meats and meat alternates most of the time—such as fresh or frozen lean meat, poultry, or fish, or cooked dry beans or peas.

- Serve desserts such as fresh fruit or canned fruit in light syrup, sponge cake, angelfood cake, and plain cake without frosting.

- Serve meats and potatoes without gravy. This will also reduce salt.

- Try introducing ice milk or frozen lowfat yogurt in place of ice cream for a change. .

SUGAR

- Whenever possible, serve fresh fruit or canned fruit packed in natural juices, light syrup, or water, and unsweetened natural fruit juices. Try a cool treat of frozen fruit juice as an occasional dessert.

- When you serve cakes or cookies use such items as vanilla wafers, gingersnaps, graham crakers, plain cake, or muffins. Go easy on especially sweet desserts like cakes with frosting or rich desserts.

- As an occasional change, try serving unsweetened, cooked fruit—served hot for fullest flavor. Bake apples without sugar or fill centers of cored apples with raisins. Add spices like cinnamon, nutmeg, cloves, or allspice to enhance the flavor of the fruit.

- Make unsweetened cereals available at breakfast.

• Serve peanut butter sandwiches without the jelly once in a while or try peanut butter with sliced bananas. Serve fruit without the flavored gelatin.

SALT

• Serve fresh vegetables frequently, either raw, such as celery sticks and coleslaw, or cooked. Only occasionally serve foods prepared in brine, such as pickles and sauerkraut.

• Watch how often you serve foods prepared with barbecue or soy sauce. Serve them only once in a while.

• Carefully control the amount of condiments such as catsup and mustard you serve with foods.

• Only occasionally serve salted snack items such as potato chips and corn chips as "other foods."

• The amount of salt can be controlled when you prepare foods in your school. If practical, only occasionally serve commercially prepared, ready-to-serve foods such as canned pork and beans in sauce, canned or frozen entrees with gravy or tomato sauce, and canned or dehydrated soups.

Suggestions for Purchasing Foods

Through careful purchasing of foods, you can moderate the amount of fat, sugar, and salt in school meals. Some suggestions to follow when purchasing foods include:

1. Check the ingredient statement on a label. It must list ingredients in the order by weight in which they appear in the product. Therefore, a label's ingredient statement can tell you about the relative amounts of fat, sugar, and salt in the product. If some type of fat, sugar, or salt appears high on the list, it is a major ingredient.

To use a label's ingredient statement effectively, you must be able to recognize the different names for different forms of fat, sugar, and salt. Here are some common names to look for:

• Fat—the word "oil" or "shortening" in names such as corn oil, coconut oil, palm oil, soybean oil, cottonseed oil, peanut oil, safflower oil, hydrogenated soybean oil, partially hydrogenated corn oil, and vegetable shortening.

• Sugar—sugar, sucrose, glucose, dextrose, fructose, corn syrups, corn sweeteners, natural sweeteners, invert sugar, honey, and molasses.

• Salt—the word "soda" or "sodium" in names such as sodium bicarbonate, monosodium glutamate, disodium phosphate, sodium alginate, sodium benzoate, and sodium sulfate.

2. Request nutrition information about a product. Nutrition labeling is voluntary for most foods and is not required on food products shipped in bulk for use solely in the manufacture of other foods. Therefore, many foods you use in school meals will not have nutrition labeling. However, many companies furnish this information on request. For those foods on which you can obtain nutrition information, it is useful to compare the amount of fat and sodium in different brands.

3. Review food purchase specifications to see where you can reduce the amount of fat, sugar, and salt in various foods. You may be able to specify canned fruits in light syrups or natural juices, water rather than oil pack for tuna, or a lower percentage of fat in ground beef than you are presently using.

Suggestions for Modifying Quantity Recipes

Moderating the amount of fat, sugar, and salt in school lunches and breakfasts by altering quantity recipes must be done carefully. In view of all of the functions of fat, sugar, and salt in foods, substituting ingredients or reducing specified amounts of ingredients in recipes should be undertaken systematically. For example, drastically reducing the amount of sugar in a cake or of fat in biscuits may result in an unsatisfactory product. Generally, if you reduce fat or sugar in a recipe for baked goods you will have to change the amount of liquid you use. Although reducing the amount of fat, sugar, or salt in recipes must be done carefully, it is not impossible. Baked products are more of a problem, but generally it is not as difficult to change the amount of fat, sugar, and salt in casseroles and soups. Review all recipes in your file and select those that use large amounts of fat, sugar, or salt that you consider to be candidates for experimentation. Start with a recipe in a smaller quantity first—not more than 25 servings. Make one modification in the recipe at a time. Reduce the amount of the target ingredient between 5 and 10 percent. Prepare the revised recipe and evaluate its acceptability. Try additional modification if you feel it is warranted.

There are some substitutions and modifications that you can generally make in a recipe or its manner of preparation without mishap. You must keep in mind how **practical** the changes are and how **acceptable** the end product will be.

EXAMPLES:

FAT

- If acceptable, use dairy products that are low in fat in your recipes. For example, in preparing cream soups or cooked puddings, try using lowfat milk or reconstituted nonfat dry milk.

- Where appropriate, try using cheese made from skim milk, such as mozzarella or cottage cheese (creamed or dry curd). For example, you can make pizza with mozzarella and you can use lowfat creamed or dry curd cottage cheese in lasagna.

- Use lean ground beef or pork in recipes such as spaghetti sauce or pizza.

- If practical, prepare your own salad dressing and cut down slightly on the amount of oil used. Or, reduce the amount of salad dressing you use on tossed salad. This also reduces salt.

• Replace a portion of the mayonnaise with mayonnaise-type salad dressing or lowfat, plain yogurt in preparing items such as chicken salad and potato salad.

• When tuna is called for in a recipe, use tuna packed in water.

SUGAR

• Try serving unflavored gelatin sweetened with fruit juices.

• Occasionally sprinkle cakes with powdered sugar or serve with fruit. This will reduce the sugar and fat that would come from icings.

SALT

• You may find it acceptable to replace a portion of the salt in a recipe with spices and herbs. Try some of these flavor ideas (remember to test for acceptability):

Beef dishes: bay leaf, dry mustard, green pepper, marjoram, oregano, basil, nutmeg, onion, pepper, sage, thyme, garlic powder, chili powder, curry.

Chicken dishes: paprika, parsley, poultry seasoning, sage, thyme, curry, garlic.

Fish dishes: bay leaf, dry mustard, green pepper, lemon juice, paprika.

Vegetables: pepper, lemon juice, onion, curry, garlic.

• If practical, make your own salad dressing so that you can control the amount of salt and possibly replace some of the salt with seasonings such as dry mustard, basil, thyme, garlic powder, etc.

Suggestions on Techniques of Food Production

After careful menu planning, food purchasing, and recipe revision, you should also look at food production techniques.

• Instruct food service employees to follow recipes *exactly*. This includes not only which ingredients are to be used in a recipe but also the exact amounts of each ingredient. Many cooks add their personal touch to a recipe by seasoning products with more salt than required in the recipe, adding that extra pound of butter or bacon fat for flavor, sweetening vegetables with just a bit of sugar, or tossing salads with more dressing than is really needed. Although these may seem to be small amounts, each cook incorporating his or her own creative flair may have an effect on the total amount of fat, sugar, and salt in a school lunch or breakfast.

• Whenever possible, bake or oven-fry such foods as chicken, fish, or french fries instead of frying in deep fat.

- Maintain portion control for all food items. This is especially important when adding extra seasonings or flavorings after cooking, such as in buttering breads and salting french fries.

- Trim visible fat from meat such as roasts.

- After cooking meats such as ground beef, drain fat before adding other ingredients.

- Place canned meat in the refrigerator so that the fat will congeal for easy removal.

- Place meats on racks for roasting or baking so fat can drain off.

Your Key to Success

Moderating the amounts of fat, sugar, and salt in school meals without reducing student acceptability is a challenge. Remember to make modifications gradually, informing your student customers of what you are doing and why. Do not make drastic changes—"moderation" is the word. Then always ask yourself whether the change is practical and acceptable.

Appendix IV
Information Materials

Publications

Food Service Management

A Guide for Precosting Food for School Food Service
(PA-1185), FNS, USDA, revised 1979 (out of print).

A Planning Guide for Food Service in Child Care Centers
(FNS-64), FNS, USDA, revised January 1981.*

Child Care Food Program Management Manual for Institutions
(PA-1265), FNS, USDA, revised October 1982 (out of print).

Equipment Guide for On-Site School Kitchens
(PA-1091), FNS, USDA, 1974.

Food Buying Guide for Child Nutrition Programs
(PA-1331), FNS, USDA, 1983.

Food Purchasing Pointers for School Food Service
(PA-1160), FNS, USDA, 1977 (out of print).

Food Service Equipment Guide for Child Care Institutions
(PA-1264), FNS, USDA, 1980.

Quantity Recipes for Child Care Centers
(FNS-86), FNS, USDA, revised 1979.*

Quantity Recipes for Type A School Lunches
(PA-631), FNS, USDA, 1971 (out of print).

Food and Nutrition

Composition of Foods—Raw, Processed, Prepared
(Agriculture Handbook No. 8), USDA, 1963.*

Composition of Foods, Dairy and Egg Products—Raw, Processed, Prepared
(Agriculture Handbook No. 8-1), USDA, 1976.*

Composition of Foods, Spices and Herbs—Raw, Processed, Prepared
(Agriculture Handbook No. 8-2), USDA, 1977.*

Composition of Foods, Baby Foods—Raw, Processed, Prepared
(Agriculture Handbook No. 8-3), USDA, 1978.*

Composition of Foods, Fats and Oils—Raw, Processed, Prepared
(Agriculture Handbook No. 8-4), USDA, 1979.*

Composition of Foods, Poultry Products—Raw, Processed, Prepared
(Agriculture Handbook No. 8-5), USDA, 1979.*

Composition of Foods, Soups, Sauces and Gravies—Raw, Processed, Prepared
(Agriculture Handbook No. 8-6), USDA, 1980.*

Composition of Foods, Sausages and Luncheon Meats—Raw, Processed, Prepared
(Agriculture Handbook No. 8-7), USDA, 1980.*

Composition of Foods, Breakfast Cereals—Raw, Processed, Prepared
(Agriculture Handbook No. 8-8), USDA, 1982.*

Composition of Foods, Fruits and Fruit Juices—Raw, Processed, Prepared
(Agriculture Handbook No. 8-9), USDA, 1982.*

Composition of Foods, Pork Products—Raw, Processed, Prepared
(Agriculture Handbook No. 8-10), USDA, 1983.*

Nutrients and Foods for Health
(FNS-97), FNS, USDA, 1973.

Nutrition and Your Health: Dietary Guidelines for Americans,
USDA and DHEW, 1980. (Single free copies from the Consumer Information Center, Pueblo, Colorado 81009.)

Nutritive Value of American Foods in Common Units
(Agriculture Handbook No. 456), USDA 1975.*

Nutritive Value of Foods
(Home and Garden Bulletin No. 72), USDA, 1977.*

Recommended Dietary Allowances,
National Research Council, National Academy of Sciences, 9th Edition, 1980 (from the Office of Publications, National Academy of Sciences, 2101 Constitution Avenue, Washington, D.C. 20418).

Information Sheets

The following materials, issued by USDA's Food and Nutrition Service, interpret the National School Lunch Program Regulations, establish policies, or provide additional information concerning the operation of the school lunch program:

Acceptable Cheese Alternate Products
FNS, USDA, 1980.

Acceptable Enriched Macaroni Products With Fortified Protein
FNS, USDA, 1980.

Bread Requirement—Child Nutrition Programs
(FNS Instruction 783-12), FNS, USDA, 1983.

Cheese Alternate Products—Child Nutrition Program Regulations, Appendix A, Alternate Foods for Meals
FNS, USDA, August 1974.

Enriched Macaroni Products With Fortified Protein—Child Nutrition Program Regulations, Appendix A, Alternate Foods for Meals
FNS, USDA, March 1974.

Exceptions to Meal Requirements for Religious Reasons—Jewish Schools and Institutions
(FNS Instruction 783-13), FNS, USDA, 1983.

Exceptions to Meal Requirements for Religious Reasons—Seventh Day Adventist Schools
(FNS Instruction 783-14), FNS, USDA, 1983.

Information on Using Protein Fortified, Enriched Macaroni-Type Products in Child Nutrition Programs
FNS, USDA, September 1972.

Juice and Juice Drinks—Child Nutrition Programs
(FNS Instruction 783-11), FNS, USDA, 1982.

Milk Requirement—Child Nutrition Programs
(FNS Instruction 783-7), FNS, USDA, 1982.

Offer versus Serve Guidance
FNS, USDA, revised 1982.

Planning and Carrying Out a Program of Student and Parent Involvement
FNS, USDA, 1980.

Standards for Meat and Poultry Products—A Consumer Referece List
USDA, Revised July 1977.

Substitutions in Meals Served Under National School Lunch and Child Nutrition Act Programs Because of Medical and Other Special Dietary Reasons
(FNS (SL) Instruction 783-2), FNS, USDA, 1969.

Vegetable Protein Products in Child Nutrition Programs, An Explanation of the New Opportunities and Regulations
FNS, USDA and Soy Protein Council, May 1983.

Vegetable Protein Products—Child Nutrition Program Regulations, Appendix A, Alternate Foods for Meals
FNS, USDA, November 1982.

The What's, Why's, and How's of Cheese Alternate Products
(Type A Topics insert), FNS, USDA, December 1974.

You can obtain all starred (*) USDA materials by writing to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. If you want other USDA or Food and Nutrition Service materials, you can request them from your State agency.

"Alternate Foods," 13-14 SEE Cheese Alternate Products, Enriched Macaroni Products with Fortified Protein, and Vegetable Protein Products.

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